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Original Communications

CONCERNING HEADACHES WITH RESPECT TO THEIR SO-CALLED DISTINCTIVE FEATURES.*

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Headaches, always symptomatic, in certain circumstances either as acute or as chronic manifestations, may assume features with respect to character and localization which have been described as "distinctive," and which are supposed to indicate the morbid process or area to which they—the headaches—owe their origin.

It is the purpose of the present essay to discuss cephalalgia from this standpoint, independently, however, of true neuralgias, for example, tic douloureux and real migraine, which may be regarded as clinical entities, and not as symptomatic interpretations.

With this viewpoint in mind, a further effort shall be made to indicate the ease with which the examiner may fall into diagnostic error if, satisfied with a labelled surface play of local or general disease, he fails to recognize the mimicry of head-pains, and thus misses the etiologic factor.

Headaches, their cause, prevention and cure, have occupied the attention of physicians from the time of Hippocrates to the present day. Numerous contributions are available in the literature, wherein these matters are discussed from all standpoints. Hence, the only excuse for introducing this subject this evening is that its portrayal is based on the experience of a good many years of active practice, much concerned with the attempted relief of headaches, and with a study of the etiologic factors. What follows may be regarded, in large measure, as a record of personal observation, to be balanced with that of many practitioners in the audience, let us hope to the benefit of all those concerned.

As a prologue to this discussion, a few words may be said with respect to the mechanism of headaches.

In their presence it is natural to assume that the sensory or sensation centers of the brain are at fault, or that the true activating cause, a toxin, for example, affects the vaso-motor centers in such a manner that a vaso-motor spasm ensues, and that this spasm determines the headache.

Should we follow the example of certain Continental authors, an endeavor may be made to trace the pain pathways anatomically, inasmuch as headaches, to use Auerbach's words, "are perceived in the innervation area of the trigeminus, and perhaps that of the sensory branches of the upper cervical nerves."

Admittedly, some of these published observations are more or less theoretical, as Auerbach points out. It is assumed that headaches, that is, intracranial head-pains, depend upon an irritation of the nerves of the dura mater, the arachnoid being without nerve supply, and the pia mater containing only nerves derived from the sympathetic system. If the last two named areas are diseased, the pressure they exert on the dura mater gives rise to the pain.

The dura is abundantly supplied by sensitive nerves. That part (quoting Auerbach's description) which is in relation with the anterior part of the skull, receives its nerve supply from the meningeal nerve, which arises from the second or maxillary branch of the trigeminus, and the anterior and posterior branches of the ophthalmic nerve; the dura of the middle fossa is supplied by the recurrent twigs of the mandibular branch of the fifth, and that of the posterior fossa by the tentorial nerves (derivatives of the first division of the fifth) and recurrent sensory branches from the sympathetic, hypoglossus and vagus. Doubtless sensory branches of the sympathetic in the vessel walls are a factor, as already noted, in headache production, that is, in conveying the impulse which causes a vaso-motor spasm and thus the pain.

Summarizing, therefore, headache as defined

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may interpret irritation or disturbance of the sensory or sensation centers of the brain, of the nerves or nerve-endings of the dura mater, and of the vaso-motor mechanism.

The source of the irritation may be one which acts directly by pressure, for instance, increased intracranial tension, in the presence of cerebral neoplasm; or indirectly through the agency of blood vessels which are either in a state of contraction (vaso-motor spasm), or in a state of dilatation (vascular hyperemia); or by means of a toxin, for example, one elaborated during fever, or from a gastric, intestinal, renal, hepatic, etc., disturbance, or through the influence of a chemical agent, *i. e.*, alcohol, tobacco and the like.

Naturally, the pain may be due to the combined effect of two factors, for example, in sinus headache the congested mucous membrane presses on the nerve terminals, which are also affected by a toxin liberated by the infecting microorganism (Skillern). Again, the area which supplies the source of irritation may itself be painless, the distress being localized at a distant point. This is an important clinical fact to which reference shall again be made, but which is sometimes disregarded.

As is well known, numerous efforts have been made to tabulate diagnostic indications according to the seat of the pain in the head, and many diagrams have been constructed illustrating this method of investigation, for instances, a marked oval area above the brow as the site of predilection for an ocular headache, a similar larger area at the vertex for a neurasthenic headache, the temple for a dental headache, a space at the top of the head just behind the edge of the hairy scalp for a nasal headache, the occiput for uterine headache, etc.

It is not disputed that the headaches named as examples often occupy the areas described, doubtless in some instances more often than elsewhere in the cranium, nor is it denied that such regional studies have a certain diagnostic value if they are added to other lines of investigation. But it must be evident that the practitioner is in danger of error in diagnosis of the source of the headache if he too strictly associates it with definite cranial regions.

The classification of headaches with relation to their supposed etiology, not only according to their location, as just referred to, but according to their characters or manifestations, has received much attention, and expressions such as "he has a typical eye-strain headache," "a representative gastric headache," "a marked pituitary body headache," etc., are constantly heard in consulting rooms, and are often recorded in case histories. Such headaches, it is assumed, have "distinctive features" from which the physician may infer the origin of the pain, that is, the true cause. Thus, a pressure-pain, band-like around the skull, or a dull pain associated with a sense of heat at the vertex, or a pain as if the skull were held in a vice, being seemingly too full, or again too empty, with or without frontal pain (the "Casque neurasthenique" of Charcot), constitute syndromes usually ascribed to neurasthenia, that is, neurasthenic headaches.

Again, the term "pituitary body headache" is of common occurrence in medical literature, and it has been maintained that it is possible to distinguish this form of headache from other forms of cephalalgy. Less intense than the headaches of brain tumor, and less frequently associated with nausea and vomiting, in situation it may be occipital or parietal and radiating, but more suggestively primarily frontal and later bitemporal, increased by tipping the head sidewise, or bitemporal, indicated by the patient in that the hand is placed on each temple, with the statement that the pain is midway, *i. e.*, intertemporal, or the finger is placed midway between the eyes, pointing backward, or at the anterior fontanelle, pointing downward, in other words, these lines of direction, thus indicated, converging toward the pituitary region (Timme's type); or unilateral and temporal, simulating migraine, in some cases with prodromal visual phenomena—phosphenes, vibratory scotomas, and the temporary hemianopsia. Finally, it may simulate typical migraine with prodromal visual phenomena. These types, especially the bitemporal one, are among those forms of head-pain which suggest hypophyseal disease.

The distinctive feature of a dental headache, according to a number of authorities, is more concerned with its localization than with the character of the pain, as already noted. Sir Lauder Brunton more than forty years ago maintained that a decayed molar in the lower jaw usually gave rise to a temporal or occipital headache, and a similar dental infection in the upper jaw to a temporal headache, rather fur-

ther forward than that caused by the lower jaw. When the incisors were infected, he believed the head-pain more commonly had a frontal or a vertical situation.

Referring next to para-nasal sinus headaches, it may be said that their manifestations are often so suggestive that they are regarded as typical. Ross Skillern, who has admirably studied this subject, asks "Do we have a typical sinus head pain?" and replies "Broadly speaking, this can be answered in the affirmative, but with reservations." Naturally, the severity of the pain depends upon the nature of the sinus infection and the degree of congestion. Hence, it may be splitting, or throbbing. It appears soon after the patient awakes in the morning, continues until about the middle of the day, and then suddenly ceases, to recur again the next morning, and in the same place unless the affection has spread to a neighboring cavity. Such a condition, to quote Skillern, is practically typical of sinus disease, but exceptions are frequent.

Systematic writers, for instance Ross Skillern, discriminate between the headaches caused by the frontal, the sphenoid sinus, and the ethmoid. Time does not permit a discussion along these lines save only in very brief statement, as follows: Ethmoidal inflammation is apt to create a headache in the parietal region, but also between the eyes and above the nose, where the sensation is that produced by a wedge, prying apart the tissues, and, if it is present, the manifestation is said to be distinctive.

The head-pain of sphenoiditis may assume the characters of the pressure type, extending from the occiput to the temporal regions. But it (the pain) may also pass downward into the shoulder of the affected side, resembling in this respect the spheno-palatine syndrome of Sluder (Ross Skillern). Naturally, in the presence of an acute process the pain is intensified, throbbing, sickening in character; a curious associate of the pain caused by frontal sinus inflammation—the pain being forehead in situation, which I have several times observed and to which Skillern calls attention, is a degradation of the power of concentration, which, if the distress is aggravated, gives rise to a form of melancholia, which may be acute.

It is interesting to observe how constantly the statement appears in non-ophthalmologic literature that eye-strain headaches almost always have a frontal situation—no matter what the character of the pain manifestation may be—beginning above one or other brow, and extending over the forehead; less frequently an occipital location is described. This frontal situation seems to many writers to be a characteristic one.

The headaches due to increased intracranial pressure, especially as the result of extra- and intra-cerebral and cerebellar growths, often persistent for long periods of time, are subject to remissions, and may be absent for weeks and even months at a time. More often than other headaches of long and continuous duration, they are accompanied by vomiting (it may be explosive) and nausea, although all types of head-pain—the bursting, gnawing and boring character—are conspicuously mentioned.

These are some of the examples (many others might be used) familiar to all of us, of headaches which are assumed to exhibit distinctive, or at least suggestive, features.

Before proceeding to analyze these groups, and to point out marked exceptions to the rule which tend to prove that it is quite unsafe to depend upon so-called distinctive features for diagnostic indications, it is worthwhile to record certain facts which, even though they may be well known, are often neglected or forgotten:

1. The organ or area which, owing to disturbed function or inflammation, gives rise to headache, may itself be entirely free from pain. Thus, in many of the most active ocular headaches, the eyes are painless; or, as Weir Mitchell in his famous pronouncement fifty-three years ago wrote: "the brain symptom is often * * * the sole prominent symptom of the eye troubles, so that while there may be no pain or sense of fatigue in the eye, the strain with which it is used may be interpreted solely by occipital and frontal headache."

Again, a carious, deflected or buried tooth, which may be the cause of violent temple or other placed headaches, may itself be, and often is, entirely devoid of pain, as Lauder Brunton pointed out forty odd years ago.

A few stopped or inflamed ethmoid cells may give no indication by pain or soreness of their existence, and yet be the source of violent tem-

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ple or interorbital pain. This will suffice; the list could easily be extended.

2. The dysfunction of the organ or area which causes the headache may be trifling, and yet be as effective, or often more effective, as a pain-producer than when gross defects are present. For instance, "Has my patient enough refractive error to account for headache"? is a common question propounded by the general practitioner, who evidently believes that the error (muscular or refractive) must be a large one to be responsible for the head-pain. Remember that small degrees of ametropia are frequent headache producers, more frequently, in fact, than the large errors. The same is true of the teeth, tonsils, sinuses, the gastro-intestinal tracts, etc.

3. Many patients have "two or even three kinds" of headache, and not infrequently the subject is able to differentiate them. This is, of course, well-known, but curiously enough, is often disregarded, with the result that proper avenues of therapeutic effort are missed. One of the most useful pieces of advice which I received in my early days was from a wise clinician who, correcting a mistake of my own, said, "Doctors fail not so often because they don't know, but because they don't examine." The application of this sentence is evident in the present circumstances.

The literature is replete with statistical information with reference to the relative frequency of the various types of headache. Such tabulations are largely only of academic interest. For obvious reasons their relative value as diagnostic indexes is a small one.

Auerbach, for example, after migraine, accords the first place in the list of etiologic factors to neurasthenia. Certainly in the symptom-complex of this condition, headache is a common member, but that is all; it is not the cause of the nervous exhaustion which follows the waste of mental and physical energy as the result of a number of influences.

In some cases, for example, as Mitchell neatly expressed it fifty-three years ago, "the eye trouble (*i. e.*, refractive or muscular error) becomes suddenly mischievous owing to * * * the increased sensitiveness of the brain from moral or mental cause." In other cases a long-continued eye-strain may be a prime factor in the development of the neurasthenic state. In either instance the correction of the refractive or muscular error is an important factor in the management of the temporarily wrecked nervous mechanism.

A similar relationship may readily be established with reference to the neurasthenic state by a chronic sinusitis, a focal infection, or a toxemic state.

Proper therapeusis depends upon investigation of various possible causative factors, and not upon attention centered alone on the general nervous dysfunction. Such terms as "sympathetic," "congestive," and "nervous" headaches represent a misleading phraseology, which happily is now becoming obsolete.

It is interesting to pause a moment and recall how gradual the recognition was of the exact causes of headache, and how insistently practitioners cling to such descriptive terms as have just been stated, and, clinging to them, fail to grasp the true etiologic factor.

Thus, about forty years ago, in a well-known and much used treatise on headaches and their nature and causes, wherein will be found elaborate classifications of head-pain in the manner just noted, there is practically no mention of such definite causative agencies as eye-strain, sinusitis, areas of focal infection, etc., although the last edition of this book was published ten years after Mitchell and Thomson's eye-strain work was available, and at a time when Lauder Brunton had called exact attention to the enormous influence of ocular defects, and of dental and other local infections in the production of head-pain.

Doubtless, however, forty odd years from now our sins of omission with respect to diagnostic investigations will meet with, and justly, similar criticism. Hence, it behooves us to be gentle in our judgments and modest in our declarations.

I venture next a few clinical remarks with reference to the "distinctive features" of headache, as already outlined, and to errors of diagnosis or delayed recognition of the etiologic factors.

Harvey Cushing, in his admirable studies of brain and pituitary tumors, points out how frequently clinical histories of patients who came under his care indicated that for long periods of time their symptoms, including headaches, have been ascribed to hysteria or neurasthenia, and that the true diagnosis was not revealed

until, as he states, "it was read by means of the ophthalmoscope in the eye-ground."

But sometimes this "reading" is not available, or rather, the characteristic fundus picture is delayed in development. Thus, a male patient, with all the signs of mental and physical exhaustion, associated with the so-called "distinctive headache" of that condition was treated as a "rest-cure case" for a long period of time. It was only a few weeks before his death on account of brain tumor, that the ocular sign of increased intracranial tension, namely, choked disc, appeared. There was no lack of investigation of this patient, but always, it would seem, with an over-emphasis on the neurasthenic condition, to which the head-pains were attributed, and with failure to recognize the early fundus and field changes as we now accurately realize them.

Among the examples of so-called distinctive headaches, those occasioned by sinus infection have received notice. Cushing has emphasized the danger of unwise operations on the ethmoid and sphenoid sinuses in the belief that the headaches were of this origin, although actually due to meningeal or cerebral disease, which they had closely simulated. Skillern's observations on the throbbing, sickening pain caused by sinus inflammation, forehead in situation, especially with frontal sinusitis associated with mental disturbance and even melancholia, has been referred to. Hence, a very similar set of symptoms, of totally different origin, is worth mentioning, namely, that exhibited by patients with severe fronto-temporal pain, impairment of concentration and derangement of intellectual functions dependent upon the lesion, either an abscess or a tumor of the frontal lobe. The possibility of an error in diagnosis is further enhanced because a retrobulbar neuritis ipsolateral to the lesion is often present (the Gowers-Paton-Kennedy syndrome), exactly as the same condition may be associated with a sinusitis. Opportunity to study several such cases has indicated the difficulty in differential diagnosis, especially if the tumor patient happens also to have a sinusitis.

Elsewhere, discussing the mimicry of pituitary body disorders of certain field defects due to other causes, I pointed out that, while disorders of the hypophysis cannot exactly be accused of simulating in visual interpretation those of infections of the para-nasal sinuses, with each condition similar or even identical temporal field defects may develop. For example, a young woman, long the subject of frontal-occipital headache of bursting and expanding character, often with nausea, developed pallor of the discs and a central field defect of bitemporal hemianopic character. Prior to the detection of this field distortion, the patient had been subjected to all manner of treatment based on the supposition that the headaches were of gouty, rheumatic, gastro-intestinal, etc., character. When the hemianopic scotomatous defects were discovered and the discs began to be pallid, it was believed that the headaches depended upon some basal lesion, perhaps a chiasmal retrobulbar neuritis. X-ray examinations (made at a time when they were not as accurate as they are at present) were practically negative. Alterative treatments, notably mercurials and iodids, were tried, but in vain. The headaches increased in violence and frequency. Finally, after discouraging failure for a long time of remedial measures, the sphenoid sinus was catheterized, and a few drops of pus found. A formal operative procedure was successful in producing a considerable period of relief, although later there were many relapses. Evidently the real cause of this headache was due to a long-time undetected sphenoiditis which caused the chiasmal neuritis, and not to a meningitis which was suspected.

The difficulty which attends the distinction between headaches of dental and of para-nasal sinus origin may be considerable, in spite of the fact that each is supposed to exhibit characteristic features. Thus, a girl of twenty, healthy in all respects save for occasional periods of mild anemia, which yielded readily to hypodermics of iron, became the subject of frequent headaches, usually extending across the forehead in a line with the upper margin of the orbit, and associated with tenderness over the root of the nose. Usually, the head-pain appeared soon after arising in the morning; but also they were invariably excited by exposure to the wind, for instance, during a motor ride. She discovered that if immediately on awakening, having slept lying flat without a pillow, she carefully, but none the less vigorously blew her nose, she could oftentimes avoid the pain. Every sign obviously pointed to the sinuses as the origin of the headache, and

although the usual examinations, including repeated X-ray investigations, were practically negative, repeated courses of non-operative treatment of the naso-pharynx and sinuses were undertaken without good effect. She was an insistent reader and a brilliant student, and hence glasses were ordered which cured entirely what she described as her "eye headache," which differed entirely in its manifestations from the other types of headache from which she sharply differentiated it. X-ray examination revealed a painless upper molar somewhat out of line and tilted inward. Finally, a dental surgeon was induced to straighten this tooth and remove its neighbor, which was infected, in order to give the necessary room. The effect was almost immediately satisfactory, and now more than a year has passed, and the patient has been practically free from headache. Obviously this was a "dental headache," but it is also likely, if not certain, that the transmission of impulse through the trigeminal fibres caused a temporary congestion of the sinus mucous membrane, which added to the difficulty of detecting the real origin of the pain.

It would not be difficult to continue along these lines with records of headaches which, although actually of toxic, that is, of chemical, origin, are ascribed to focal areas of infection, in one notable instance exactly simulating a spheno-ethmoid head-pain, but really due to the influence of coffee, for which the patient possessed a marked idosyncrasy, but which for a long period, some years, in fact, was unrecognized; of headache due to early arteriosclerosis attributed to nervous exhaustion, *i. e*, neurasthenia; of headaches associated with cyclic vomiting, credited to auto-intoxication, but actually caused by increased intracranial tension from cerebral tumor; or of headache accounted for by the presence of early nephritis and hypertension, but, as subsequent events proved, occasioned by slowly developing pituitary body disorder. The list is a long one, and in most of the instances the so-called distinctive features of the head pains were those of the influence accused, and not especially those of the actual cause.

It is well known how frequently eye-strain in the widest acceptation of that term determines headaches, usually classified as those of functional origin. Too often in days gone by they were believed to occupy almost exclusively the frontal area and to be associated with ocular pain, and even in our time this belief is not extinct, when, in point of fact, the eyes are often painless, and these headaches may vary from a moderate frontal distress to violent explosions of pain, and may be localized in any portion of the cranium, and may be associated with nausea and vomiting, and may be "bilious" or migrainal in type. I believe I am correct in stating that eye-strain occupies a prominent, if not the most prominent, position among the mimics, and I further believe that all of us will agree that it creates headpains which so closely resemble those ascribed to other causes, that the incautious examiner may readily go astray.

But this discussion of so-called distinctive features must not be prolonged. Neither time, nor, I suspect, your patience, permits it.

In brief summary, then: With due respect for the value of clinical classifications, distinctive features and favorite sites of the cranial location of headaches, errors of diagnosis are sure to arise if the practitioner is satisfied alone with the information they afford; headaches are accomplished counterfeiters.

Headaches, especially if prolonged, recurring, intractable, demand thorough investigation with the aid of all the methods now so easily at our disposal. The search for, and the correction of, the etiological factors constitute an art and a science. The work must never be sloven, never careless. To fail in this respect is just as reprehensible as would be the administration of wrong doses of a remedial agent, or faults in the technic of a delicate surgical operation. Combined, our efforts may be effective; uncombined, defective. Therapeutic success is what we desire; we shall achieve it in complicated circumstances if we labor, to use Ruskin's oft-quoted words, "in perfect sympathy and uncontending equity."

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THE OBSTETRICAL FORCEPS OPERATION.*

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The forceps operation has the widest field of usefulness of any obstetric operation and there is little question that it is the operation most abused. It has been said that the ob-

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stetric forceps is responsible for a very large part of the work the gynecologist has to do and for the death of many babies. The operation may be a harmless life-saving procedure or it may result in the death of the mother or babe or both. The life and welfare of the patient depends upon the judgment of the attendant nowhere in the whole field of medicine as it does in obstetrics and here there are two patients to be considered. Management of the labor case is the most important thing the attendant has to do and this fact is seldom emphasized. Obstetric strategy is as important to the doctor in charge of a confinement case as is military strategy to an officer in charge of troops in the field. Human life is at stake in each instance; a correct maneuver made at the wrong time, or a wrong maneuver made at any time may bring disaster. In the labor room or on the field of battle the proper strategy indicates to us what to do, when to do it, and how to do it. The doctor who does a forceps operation at the wrong time or attempts to use forceps when some other operation should be done may be compared to the military commander who makes an attack prematurely or sends his men against an impregnable nest of machine guns. With proper management the forceps will be used only at the right time, not too soon and not too late, only when indicated, and in the proper manner; thus they will fulfill their real purpose.

A forceps operation done before the conditions are favorable often results in disaster when the same patient could have been delivered a few hours later without injury to mother or child; or, the other extreme less commonly observed, when, with all conditions present for a safe forceps delivery, the baby is allowed to die when a well-timed simple forceps operation would have saved its life.

The consultant constantly sees cases that have been poorly m a n a g e d, the obstetric strategy has been faulty, and in many such the serious outcome could have been avoided if the case had been properly managed from the start.

The very nature of labor makes it essentially an emergency condition. The attendant must at all times be prepared to deal with some grave and important complication. He must be able to recognize the complication when present, but most of all he must not allow himself to be stampeded into action when no emergency exists. There is constant pressure on the doctor to hurry, and a belief among the patient and her friends that he can safely terminate the case at any time. Moreover, the patient expects that he can do any forceps operation himself and he feels that he will lose caste if he does not. As a matter of fact, a difficult forceps operation is no more justified in unskilled hands than any other major operation would be under similar circumstances, yet many doctors, who would decline to perform a surgical operation of even a minor nature, do not hesitate to use forceps in difficult cases. If the difficult case is recognized as such in advance and properly managed throughout, most of the bad results from forceps operations will be eliminated.

There seems to be a tendency to regard all operations done with the forceps as being much alike. There is as much difference between a low forceps delivery and a difficult high operation as there is between opening a furuncle and doing a resection of the stomach, with about the same difference in risk. The fatalities to mother and child in forceps operations result from a failure to recognize this fact and to distinguish between the operation that can be safely done and the one that carries the high mortality. It may be stated that the operation always offers a certain additional risk for the mother and for the baby, which varies widely with the conditions present; therefore, the reasons for operating in every case must be sufficient to justify the risk, whatever that may be. The conditions must govern the indications; that is, the more difficult the operation, the more urgent must be the reasons for doing it.

With strict attention to asepsis, a doctor, by carefully reading up the anatomy and the method of procedure, can perform most surgical operations without at least a disastrous result, but this is not true of obstetrical surgery.

The operative field in general surgery can be sterilized. It is impossible to sterilize the vagina, while normally the interior of the uterus is sterile in pregnancy. It is impossible to pass anything into the uterus, whether hand, fingers or forceps, without potentially infecting it, and on account of the favorable conditions present, it is an ideal location for the de-

velopment and growth of pathogenic organisms.

There can be no doubt that the forceps operation in itself carries with it a greater risk of material injuries and hemorrhage and an increased danger of death or injury to the baby. Therefore, if we deliver with forceps without a valid reason, and the baby dies, or the mother has hemorrhage or sepsis, we are certainly responsible morally at least for unnecessary damage to our patients.

Assistance with the forceps should be given only in such cases where it is really needed; if there is any doubt about the wisdom of using the instruments they are best not used. In every large clinic cases are frequently admitted for craniotomy after futile attempts at delivery have been made, perhaps for two or more hours; with the baby killed, the chance for successful Cesarean section has been diminished or lost by attempts at delivery. In many cases it is safer to wait than to operate, because it is the exception for Nature to inflict such injuries to mother or child as do the forceps on the high head. There is no hard and fast rule for the use of forceps; each case must be decided on its merits. Not a few failures are due to faulty judgment on the part of the doctor, and more are caused by incorrect diagnosis.

Fatalities to the baby and injuries to the mother are commonly *said* to be unavoidable. In most cases this is not a fact. Such a statement reflects more on the obstetric strategy used in the case than on the anatomy of the patient. The obstetric forceps should be used to deliver a live child; if the child is to be delivered dead, the cranioclast is the instrument of choice.

When the present wave of popular interest in obstetrics reaches a higher point the doctor may be asked: "When did this baby die?" "Why did this patient have sepsis?" "What were your reasons for operation in this case?" With the head bulging, the perineum and the cervix completely dilated, an arrest of progress for one hour might be a valid reason for forceps delivery if other conditions were favorable, but no such reason would justify the operation if the head was at or above the spines and the cervix not completely dilated.

If the indications for forceps are to be governed by the conditions, we must be able to recognize the conditions.

Obstetric diagnosis is a very much neglected field. The doctor himself is not by any means to blame for this because, on account of its supposed unimportance, the subject has not been given enough attention in the schools and the little learned in the hospital has been forgotten before the average man has acquired enough obstetrical work to keep his hand in. Now that the medical profession is being called upon by the public for better results in obstetrics, the question of obstetric diagnosis has assumed a new importance. Too many doctors depend upon the location of the heart tones to determine on which side the back lies and some do not even attempt to distinguish between the large and small fontanelle or even the location of the sagittal suture. The ischial spines are unknown landmarks to many. To do even the simplest forceps operation with this kind of diagnosis cannot be too strongly condemned. The interne nowadays is instructed never to make a vaginal or rectal examination, even in a non-pregnant patient, without palpating the tips of the ischial spines in order to become familiar with this important landmark in the pelvis.

The doctor who gives careful attention to obstetric diagnosis will observe that some of the methods given in text-books are not as practicable as they might be. He will find that the difference in shape and size of the two fontanelles is often not enough to enable him to tell one from the other but that counting the sutures that run from a fontanelle makes its identity plain. The fontanelles and even the sutures may be obscured by the caput succedaneum; here the hand is passed in posterior to the head and the ear palpated. The location of the ear will indicate the position of the sagittal suture and the flap of the ear as the fingers pass over it will show where the small fontanelle lies. This method should be used in any case where there is doubt of the location of the small fontanelle. He will also agree that the broad smooth surface, that is supposed to indicate the location of the back, is very often hard to identify, but that the location of the anterior shoulder and the cephalic prominence will not only indicate where the back lies but will give a clue as to whether the head

lies anterior or posterior. (Demonstrated on manikin.)

Proper obstetric diagnosis includes frequent observation of the fetal heart tones; especially during the second stage one must know when the baby *begins* to suffer from some complication incident to this period of labor. A short cord around the neck may kill the baby in a few minutes during the expulsive stage and the only way we can avoid this accident is by listening to the baby's heart and doing a rapid extraction before death occurs. (Head stethoscope shown.)

Bad results from forceps operations are most commonly due to one or more of the following causes:

1. Too early operation through a cervix only partly dilated.
2. Attempts to deliver with forceps when the lowest part of the head is above the spines.
3. Failure to make accurate diagnosis of amount of descent and rotation present.
4. Extraction of head with occiput posterior.
5. Unskillful use of forceps, compressor, rotator, lever.

The first prerequisite mentioned in every textbook is that the cervix shall be dilated, meaning, of course, completely dilated, that is, flush with the vagina, and there is no dictum so commonly ignored in all medicine as this and none that should be more accurately complied with. Disregard of this condition results in death of the baby on account of the excess force necessary to pull the head through, the cervix is always lacerated and postpartum hemorrhage and sepsis often follow. It is true that in a few cases a multiparous cervix can be dilated in this way, but the cervix of the primipara will either be torn deeply or prevent the extraction of the head.

Manual dilatation may be used in urgent cases but the cervix is always torn and complete dilatation cannot be secured by this method. If a sufficiently urgent reason for delivery presents itself when the head is low and the cervix more than half dilated, cervical incisions may be made and these should be repaired immediately after delivery. This is a major obstetric operation and should rarely be performed without hospital facilities at hand.

Every effort should be made to secure spontaneous dilatation, and he who applies forceps through a cervix not dilated by uterine action assumes a real responsibility and needs to have very good reason for so doing.

Between the station of the head that is fixed in the inlet and the head that bulges the perineum lies the field for forceps. This space is divided about midway from top to bottom by an imaginary line drawn from the tip of the spine of the ischium on one side to the corresponding point on the other. This might well be called the dead line because of the high mortality to the baby and danger to mother from the forceps operation done when the lowest part of the head (disregarding the caput) lies at or above that line. The forceps operation on a head so located is a major operation and carries a high mortality even when performed by the expert with all other conditions favorable. In the hands of the inexperienced operator the forceps becomes an instrument of destruction to the baby and of grave peril to the mother. Delay in labor at this point often results from a relative or absolute disproportion between the head and pelvis, or when the sagittal suture lies in the transverse diameter or the small fontanelle is posterior, conditions which in themselves always make doubtful the wisdom of even attempting to deliver with forcepts; and the forceps operation with these conditions present should not be undertaken if it can be avoided.

The proper strategy here requires that we accomplish three things before attempting to deliver with forceps: first, to determine whether or not there is bony disproportion; second, to secure dilatation of the cervix; and third, to secure descent and rotation of the head so that its lowest part is below a line drawn between the tips of the ischiatic spines and the small fontanelle as near the front as possible.

We may tell whether the pelvis is large enough to permit the head to pass by the use of a comparatively simple test called the Mueller maneuver. The internal examining finger notes the relation of the lowest part of the head to the tips of the ischial spines while the external hand makes strong pressure on the breech of the baby in the direction of the inlet; if the head moves downward to or below a line drawn between the tips of the ischial spines and comes to a stop gradually against the elastic cervix there is no serious bony disproportion at the inlet. If, however, the head

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cannot be impressed to the spines, or if it comes to a stop suddenly, there is a bony obstruction and a forceps on such a head will almost certainly result in disaster. In order to achieve the best success with this maneuver, it should be practiced on every patient examined at or near term or in labor; by doing this the operator acquires experience with the method and will soon establish a normal standard by which the abnormal cases can be judged. (Demonstrated.)

If it is found that the head will go through the pelvis and the cervix is not completely dilated—wait, give morphine; this accomplishes two purposes: rest for the patient and the cervix will dilate more rapidly under its influence; as the cervix dilates, the head will descend, and the result will be either a spontaneous delivery or a forceps operation with the cervix completely dilated and the head below the spines, conditions which make the operation a comparatively safe and easy procedure.

There is a broad and useful field for the forceps operation when the cervix is fully dilated and the head below the spines and rotated at least partly to the front. It is here that signs of exhaustion on the part of the mother or babe may appear and furnish the indication to deliver. Here the forceps may be used to save life. The blades are laid on the sides of the head, there is no resistance from the cervix and a minimum of force is required.

If the head is low and the small fontanelle is in or posterior to the transverse diameter of the pelvis, there will be difficulty with the extraction or the delivery may be impossible. The operation will be rendered safe and easy by rotation of the small fontanelle to the front by hand. This may present some difficulty because the head tends to return to its former position before the blades can be applied. Two methods are used to avoid this. After rotating the head the blade that lies on the side toward which the occiput points is applied first. The assistant holds the head anterior with this blade while the other is laid on and locked.

If this fails, we may rotate the fontanelle to the front and grasp the scalp near it with a heavy volcellum forceps, the assistant gently holds the head in position while the blades are applied, with the fronts pointing toward the small fontanelle. This can and has been done without injury to the scalp since it requires only a small amount of traction to hold the head anterior after it is rotated. The advantage gained by getting the head anterior in my opinion justifies a slight risk of injury to the scalp.

Rotation of the head to the front in occiput posterior position *with the forceps* is a hazardous procedure in primiparae and in the hands of any but the most expert operator. The dangers from this, the so-called Scanzoni rotation, are: injuries to the bladder, tearing the vaginal walls from their attachments, and deep lacerations.

If the head of the child is movable above the brim of the pelvis, the forceps should never be applied. If the head is fixed in the brim, with the cervix dilated, and cannot be pushed to the spines, and does not after a fair trial mold enough to come through, the forceps are contraindicated.

The forceps should not be used as a compressor, rotator or lever. The only justifiable use of the forceps is that of traction, straight even pull in the direction of least resistance. (Illustrated). If all conditions are right, no more force is required than can be exerted by the biceps and shoulder muscles.

In any forceps operation some compression of the head is unavoidable. This will be reduced to a minimum if the blades lie on the sides of the head instead of obliquely. The fronts of the forceps represented by the concavity of the pelvic curve should point in the direction of the small fontanelle. The handles should never be squeezed together in making traction. And the pull must always be in the direction of least resistance. The lever action is carefully avoided at all times and the head must not be pried out by using the symphysis as a fulcrum.

The objective in every forceps operation is to deliver a live baby with no injury to the mother. The surest way to accomplish this is to do the forceps operation after the head has reached a point below the spines, after the cervix is dilated and after the small fontanelle is rotated enough to the front to permit the blades of the forceps to be applied to the sides of the head.

If the baby is all right and the mother is in good condition, no time or effort should be

spared to secure these conditions before applying the forceps.

The obstetrical forceps is an extremely useful instrument when properly applied but an instrument of quite another kind when used without the utmost care, judgment and precision.

104 *South Michigan Avenue.*

THE LEGITIMATE BOUNDARIES OF PUBLIC HEALTH ACTIVITIES.*

By ENNION G. WILLIAMS, M. D., Richmond, Va.
State Health Commissioner.

When the State Board of Health was reorganized, those in charge endeavored to limit its activities strictly within the bounds of recognized governmental functions. In all that was planned or undertaken, they kept before them the idea that the work must be carried on for the whole people, or the public, and not for individuals. The viewpoint of the health officer, whose duty is to protect the public, is in marked contrast to that of the practitioner of medicine, whose duty is to the individual. It is also in marked contrast to the charity or welfare worker, who administers to the relief of the individual poor.

As our civilization progresses, there is need and demand for a broadening of governmental functions and, consequently, the boundary lines of those starting out to work from different viewpoints touch and overlap, and there is a natural danger of conflicting efforts.

We are aware of these dangers and realize that we must carefully watch our course and tendencies and frequently recur to first principles.

There are certain activities which are so naturally the result of a constitutional government that no one would question that they are within the legitimate boundary of public health work.

The first of these is the education of the public as to a knowledge of the cause of diseases and methods to prevent them. This should be the preliminary and fundamental duty of a health department until the information becomes common knowledge.

Next is the supervision of such utilities as water supplies and sewage disposal, and the abatement of nuisances dangerous to the public health. Water supply or sewage disposal even on private property, never affects an individual alone but has its influence always upon more than one person. All of these should come under the supervision of a public health department.

The third definitely public health activity is that for the control of communicable diseases, This includes the collection of reports of cases, aid in diagnosis, epidemiological study of the cases and the institution of measures for control. Whatever is done for the individual case of a communicable disease by the health department is not so much for the individual involved as it is to prevent the spread of the disease from this individual to others. There may be doubt in the minds of some as to how far the public officer should go in some of these activities, particularly in the aid to diagnosis. To aid the doctors in the diagnosis of communicable diseases, the Public Health Laboratory is operated. Such examinations are made there as will aid the doctors in the diagnosis of only communicable diseases. Examinations that benefit the individual alone, such as a urinalysis to detect nephritis or the examination of tissues for malignancy, may with propriety not be made by a public health laboratory. These latter examinations benefit only the individual, as such diseases are not communicable to other people. If such examinations are made at a public laboratory, it should only be justified as a relief measure for those unable to pay.

The public has an interest in the prompt diagnosis of a communicable disease, for it is only after the diagnosis is made that proper preventive measures can be instituted. The public, should, therefore, bear the expense of such aid. So far as I know, no one has ever questioned the advisability of the State aiding in the diagnosis of communicable diseases, except in making Wassermann examinations for the diagnosis of syphilis. An objection to this has come to the State Board of Health from the director of a private laboratory. He considers that the Wassermann examination is not a public health measure, his reasons being that syphilis is contagious in the primary stage and that in this stage a Wassermann reaction is usually negative; that, furthermore, a Wassermann is usually positive in the third stage and in this stage it is usually not communicable, although even in this stage it may be com-

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municated to the off-spring. The bacteriologist mentioned above apparently does not object to the State Laboratory making examinations for tuberculosis, diphtheria, typhoid, or any other communicable disease.

It was not until after the war that Wassermann examinations were added to the routine work of the laboratory, and it was then in response to a persistent demand of many practitioners. Its need and popularity are reflected by the rapidly increasing number of examinations made. More than 18,000 Wassermann examinations were made last year, including those for Richmond.

It has seemed to us that as syphilis is a communicable and inherited disease, there is reason for the public to aid in establishing its diagnosis, as well as for other communicable diseases, which are not so prevalent, and which do not add so heavy a burden as this disease puts upon the public through the support of institutions for the insane.

Other States make urinalyses and pathological examinations of tissues, but we have interpreted these examinations as not being within the legitimate boundary of public health activities.

These are mentioned here to bring out discussion, as the State Board of Health does not wish to engage in any activities not approved by the organized medical profession.

If the doctors of the State think that some restriction should be made in these examinations, we should be pleased to have suggestions or recommendations from them.

Another measure in the prevention of communicable diseases is the use of biologics. Formerly the accepted or common measure for the control of these diseases was the enforcement of quarantine. Quarantine is now looked upon as of minor importance, most of the communicable diseases having a specific method of control. For example, the control of diphtheria can best be effected, besides measures of personal hygiene, by the employment of the Schick test to tell which individuals are susceptible and then by giving toxin-antitoxin to the susceptible.

If in former days the public supported quarantine measures, which are relatively ineffective, surely it will support the modern methods which are far more effective in protecting the individuals and the public. The same process of reasoning justifies the free vaccination against smallpox and typhoid fever as a public health measure.

Furthermore, the free and prompt use of diphtheria antitoxin as a curative measure is also effective in the prevention of the spread of this disease. In consequence thereof, several cities in our State, and a number of States in the Union, give antitoxin free to every citizen, irrespective of the ability of the citizen to pay. Its free and liberal use will not only save life, but will make the patient well more promptly and decrease the danger of the spread to others.

The State Board of Health of Virginia has been unable to secure an appopriation for free antitoxin. The best it has been able to do is to make an arrangement with the manufacturers whereby these products can be sold through the State Board of Health at wholesale prices. We are informed by the manufacturers that, if the State would purchase it outright, it could do so at a cost even lower than the wholesale price, at which it is sold through the State Board of Health.

We believe the State Board of Health is justified in handling biologics—the vaccines and antitoxins, which are used for the prevention and cure of communicable diseases. By doing so the prices of these products have been held down within reach of poor people and a prompt, available supply of high class products has been ensured.

We have not felt justified in handling those products that are used in the treatment of non-communicable diseases, such as insulin and thyroid extracts.

A new field for public health endeavor opened up several years ago when the physical inspection was made of children in several of our Virginia counties. It was found that a large percentage of the children had more or less serious physical defects. These inspections were made just prior to the world war. When the examinations of men during the recruiting revealed a large proportion physically unfit for service, our country was astonished at these revelations, and it was not difficult for the people to believe the report of the defects among the school children.

Hitherto, people had looked upon children as needing the service of a doctor only when they had a pain or were so sick they had to

go to bed. The inspections demonstrated that a large proportion of school children had physical defects that, if not corrected, might handicap a child for life. They needed professional attention, particularly of specialists and dentists. This was a new situation to deal with.

The government, at a time when it needed strong, healthy men for its service, found about thirty per cent so handicapped physically that they could not serve in the fighting forces. Was it not natural that the government should realize that it had a duty and responsibility for the physical condition of the youths of the nation? If it is the proper function of the government to train the youths mentally through the public school system, should it not also be concerned in seeing that the future citizens should be properly looked after physically? This question naturally arose.

Soon after the war, Congress made an appropriation and passed an act to co-operate with the States in looking after the physical welfare of mothers and infants. The States generally have expanded their activities to reach the school children. From an economic standpoint, the government would be justified in looking after the health of those children it endeavors to educate. The child with physical defects is not only more likely to repeat the grades, but also retards other children, and when the physical defects are corrected, the child makes more rapid progress and is less costly to educate.

There is a question as to the extent to which the government should go in looking after the physical condition of children. It can at least see that the environment is what it should be and furnish those that make the inspections, leaving the corrections to the parents or guardians. The correctional work should only be carried on by the government because of the inability of the parents to do so. In the use of the word government, I refer to national, state, or local. I shall not attempt to discuss which of these are responsible for any particular line of work. There should be co-operation or co-ordination between the three.

The question is an open one as to which department of government should assume this line of work. The State Board of Health had interpreted its functions as limited to prevention and viewed its work from the standpoint of the public rather than the individual. Now, here was a line of work that dealt with the individual. It is of a professional nature. There are more professional men on the State Board of Health and its functions are more professional than that of any other State Board except the Board of Medical Examiners and, therefore, it was considered that the new line of work belonged more to the State Board of Health than to any other, and so we assumed this responsibility. In many localities the inspection and correctional work is carried on through the educational agencies. The question is still an open one.

We realize that in the newer field of health activities it is possible that we may get into the doubtful zones and overstep the legitimate boundaries of public health work. It is manifestly impracticable for a government to undertake generally to correct physical defects. It can, however, assist in supplying the agency to make the inspections to find the defects and assist in arranging for the correction. This newly developed line of health endeavor might be called the clinical field of health work. It is quite distinct from other activities and it will be well to summarize its various features. The State Board of Health in developing these clinics is particularly careful that it has the approval and co-operation of the medical profession, because they do not care to bring upon the health work such condemnation that will react against other endeavors and against which there can be no legitimate objection.

The clinics are divided into three kinds: First, preventive; second, diagnostic; third, treatment.

The preventive clinics are to protect against smallpox, typhoid fever and diphtheria by vaccination and the administration of toxin-antitoxin. The individual usually pays the cost of material used. The services of the health officer or nurse are paid by the community. Surely, no one can reasonably object to a health officer, paid by the people, using his time in protecting people against those diseases which greatly increase the burden of the people by their presence. Such measures against these diseases are far more effective in controlling them than the old method of quarantine.

The second group are diagnostic clinics—tuberculosis and child welfare. The tuberculosis clinic has for its prime object the finding of cases of tuberculosis and placing them under the care of a doctor for their own treatment

and instructing them how to avoid giving the disease to others. These measures must be taken if this disease is to be materially reduced, as every case is a potential source of spread.

In 1924 the tuberculosis clinics were held in forty-seven counties; 6,200 people were examined; 1,100 were found to have tuberculosis; 2,000 had other physical defects; 3,100 were urged to visit their doctors; 2,278 were not under the care of a doctor. Surely doctors could not object to clinics of this kind that put under their care so many new patients. The patients are benefited and the public is protected.

The child and infant welfare clinics are conducted with the help of Federal funds received under the Sheppard-Towner Act. Children and infants are examined. The mothers are given verbal and printed directions for their care. If any physical defects are found, the mothers are urged to take the children to their doctor for cure. Special effort is made to reach the pre-school children in order to have them physically fit before being sent to school. Besides the humanitarian idea, this is economical from the school standpoint, as the child with physical defects is much more expensive to educate.

Third, the curative or treatment clinics hitherto held are dental, tonsil and adenoid, and orthopedic. As soon as school inspection work was begun, the importance of securing the correction of defects was realized. The most common physical defects are dental. The State Board of Health asked the State Dental Association for their co-operation and a plan for having dental defects of children in the rural sections corrected. This was a difficult problem, as there are thirty counties without a dentist and sixty counties averaging one dentist to a county. Dr. Applewhite, former President of the State Association, gave up his practice and for six months made a survey of the situation. A plan was worked out. The Dental Association gave their hearty co-operation. The success of these clinics under their guidance and the administration of Dr. N. Talley Ballou has been remarkable and, so far as I know, the clinics have the approval of all parties concerned. The plan, I understand, has been adopted by other States.

To conduct tonsil and adenoid clincis, we in like manner asked the State Society of Nose and Throat Specialists to give us a plan as the dentists had done. We started on a plan which, we understood, had their approval, but soon found that it was vigorously opposed by many members of that Society. We, therefore, abandoned it and requested them to give us a a plan. They have not done so up to the present time. We have given notice that we do not expect to be responsibile for any tonsil and adenoid clinics until we have a plan approved by that Society and also until we have their co-operation. Such clinics as are now held are under the auspices of local physicians and organizations.

The orthopedic clinics are both for diagnosis and treatment. They are now held jointly with the State Bureau of Industrial Rehabilitation and are for adults and children. The plan was worked out following a conference with the ten orthopedic surgeons of the State. The professional services at these clinics are rendered by the ten orthopedists, each having his own district. Some of the patients are treated at the clinics. Those able to pay are referred to their doctor, or are treated privately by an orthopedist. Some need hospital treatment. If they are able to pay, they can go to any hospital they select. If they are unable to pay for hospital care, they will be admitted to one of the State supported teaching hospitals connected with either the University of Virginia or the Medical College of Virginia. The appropriation of $25,000 made to the State Board of Health for orthopedic cases is spent for the hospitalization of indigent cripples at one or the other of the above mentioned institutions.

During the war the federal, state and local governments assisted in maintaining venereal disease clinics. At present neither the federal government nor the state assists in such clinics, some of which are maintained by certain communities.

In this brief paper, I have endeavored to review some of the more doubtful boundary zones of public health activities. We want always to work with the full approval and in closest co-operation with the organized medical profession. We believe that this profession with its high ideals of service and humanitarianism can be relied upon to safeguard the people. We are always glad to receive from its members constructive criticism and suggestions for our guidance.

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DISCUSSION.

Dr. K. D. Graves, Pearisburg: Dr. Williams' paper is of great interest. I have heard of state boards, as well as individuals, being censured for not doing enough work, but it seems that Dr. Williams is on the defensive for doing too much. I must say that, although in a number of lines his department has been splendid and most commendable, I do feel that there is a possibility that it has carried the work in Wassermann tests too far, for this reason: In the private laboratory the only test that the laboratory can support itself from, in my judgment, is the Wassermann test. I do not believe that, with the Wassermanns removed from it, the private laboratory can exist. They make the laboratory possible, and it then is able to make other tests, such as tissue examinations, urinalyses, etc. But with the State putting up such a strenuous competition—because that is what it amounts to—a doctor is not going to send the private laboratory a Wassermann and pay five dollars for it if he can send it to the State Laboratory and get it done for nothing. Every time the private laboratory does a Wassermann, it gets it in competition with the State Board of Health. That makes it impossible for the private laboratory to exist. During the past eleven years, so far as I know, only two men in the state have gone into laboratory work for their full time, except to take teaching positions. If the field were made more promising, more men would get into it, and communities in every section of the state would have laboratories. I believe the State should make these tests only on the wards of the State, such as convicts, inmates of jails and detention homes, etc.; or, if it made them on others, should make them only on charity cases; or should charge for those that are not charity cases. It is estimated that the State Laboratory makes 18,000 Wassermann tests a year. The State Bacteriologist told me a year ago that he thought 5,000 of the persons for whom the tests were made were able to pay. That would make the State laboratory virtually self-supporting, and instead of having to appropriate $25,000 or $30,000 for the laboratory, that branch would support itself; or, if they did not need the money, it could be used for some other branch of the work, such as the hospitalization of indigent T. B. cases, etc.

Dr. Isaac Pierce, Tazewell: Dr. Williams nor any one else can do health work successfully unless he has the absolute support of the entire medical profession. Even if there is just a small minority opposed to him, he will be handicapped by that much. We must look at this purely from a business standpoint. We can not blame a man with a well-equipped laboratory for objecting. Even though he may not do so publicly, there is a certain reservation when, on the face of the matter, the State is engaging in the same business in which he is engaged. He may say it is all right, but back of that is the thought that it is interfering with his business. So it seems to me there should be no overlapping lines. There always will be, so long as the State is undertaking to do part of this work and the medical profession the other part, a certain amount of pulling back. We are all human, and it cannot be helped. I have always held, and still believe, that the work done by the State Laboratory does more than any other activity engaged in by the State Board of Health to secure the support of the medical profession. I think Dr. Williams is right in asking the co-operation of every medical man in the State to uphold the State Board of Health. I think we should all do it, but, at the same time, I think we should make a single purpose of it. There is no reason why the State should not lend a helping hand to anyone who has fallen by the wayside. The chief thing today is prevention, and cure is a secondary matter. So long as there are two agencies doing the work, there will be friction. So I am asking in behalf of Dr. Williams that so long as things remain as they are now, uphold and support the State Board of Health.

Dr. Charles Phillips, Richmond: I speak as a full-time pathologist in one of the medical schools of the state. Last year in the pathological laboratories at the Medical College of Virginia we did 6,700 Wassermann examinations, and this number is probably second to that done by the State Laboratory. The financial return from the Wassermanns was low, because done largely in teaching hospitals, but if only part of them had brought in five dollars a piece at the prevailing private laboratory rate, you can see how much money we would have had. Formerly, in this city there was money in doing Wassermanns, but this is hardly so now, for practically anyone can get it done free, so that part of the legitimate income to private laboratories is disappearing. Personally, I feel that if a patient can afford to pay for medical attention he should do so and that free work should practically only be done for those who cannot pay. Our hospital work is run on that basis. We are not, in the nature of things, either in competition with the private pathologist or the State of Virginia, and so are able to look at both sides of the question. There is no doubt that expansion of activities of the State Board has seriously interfered with private earnings of a group of laboratory specialists and that they have a right to be heard in protest just as the ear, nose and throat specialists have done about State tonsil and adenoid clinics. There is justice on both sides and the solution is not entirely easy. The State Laboratory is run economically and efficiently, I know personally, and I have a high regard for its director, its personnel and the quality of its work, but it seems to me there is fairness in the protest of the private pathologist that the State is destroying his business in this regard.

Dr. J. D. Willis, Roanoke: It is necessary to have maintained about the state thoroughly efficient diagnostic laboratories. If, by reason of the fact that the main support is taken away from the private laboratory, the work of that laboratory is lessened, and the people of the state as a whole will suffer. I think this matter ought to be given considerable thought and be well worked out. There are very few competent tissue pathologists in the state of Virginia. It is absolutely impossible to maintain one in certain sections of the state. With the aid of Wassermann work and other work that is remunerative, it would be possible to maintain tissue pathologists. I believe the basis on which we have been working is wrong, and something should be done to have the tests done in the different communities. I should like to see the private laboratories maintained. I know they are a great convenience to the doctors, and are certainly a great asset to the communities in which they are located. I think private laboratories should be supplied with state funds for public health work done in their locality, or in some other way be given the means to keep going. We need their services in the different sections of the state.

Dr. T. L. Driscoll, Richmond, Va.: I am interested in this question from the fact that I am perhaps one of the largest subscribers to the State Laboratory, due to the fact that I am one of the clinicians for

the City Health Department. The fact that the State Board of Health does without charge, and upon all occasions, a Wassermann, enables the general practitioner, and especially the man in the rural districts, to do a routine Wassetrmann. The practical side of the thing is this—the State Board of Health can not maintain a laboratory without a certain definite expense. There is no greater expense, in all likelihood, in doing 500 Wassermanns than in doing 100 Wassermanns. It is an impossibility to be able to differentiate the fine points as to the charity case and the pay case. Certainly in the City of Richmond, I believe, most physicians having pay cases, that is, individuals able to pay $5 or $10, send them to the private laboratories. It is no little thing for a person who has little money to pay for Wassermanns. In the course of an average case of syphilis there are perhaps a dozen Wassermann tests made. I believe one of the greatest things the State of Virginia is doing today is running a free laboratory.

Dr. Warren T. Vaughan, Richmond: At the last meeting of the American Society of Clinical Pathologists in Philadelphia, the subject of state laboratories and private laboratories was discussed through an entire afternoon. Particularly was the free Wassermann test discussed. No conclusion was reached. The argument on both sides was given just as it has been here. I dare say, nearly every state in the Union provides free Wassermanns, and the chances are that even if we felt that this should be discontinued we should not be able to discontinue it, because it has been sanctioned by practically every state. The only type of Wassermann to be objected to is the routine Wassermann. When a man is doing routine Wassermann tests, just as he might do routine blood counts, urinalyses, etc., he should assume the financial responsibility for it. The chief contention that was carried through the meeting to which I have referred was the danger of encroachment on strictly non-public health procedures. Some states—Ohio, I believe, is an example—are doing urinalyses, blood chemistries, and tissue examinations free of charge. I feel with regard to the present situation, and the discussion of Dr. Williams' paper, our attitude could well be that if we co-operate with the State Health Department as well as they have co-operated with us, everyone would be happy.

Dr. ————: This question is largely one of state Wassermann or private Wassermann. I have no criticism at all with reference to the State Health Department; what I have to say is in reference to the general problem. If the state does free Wassermanns, it will step into other branches of laboratory work, and many states already have. In the city in which I live the city does free tissue examinations, urinalyses, stool examinations, and what not. This is a question of the relationship of that test and its bearing in the diagnosis of the patient. We have been prone to set laboratory work aside as a separate entity, whereas it is only a means of diagnosis. An isolated laboratory test done by a laboratory that never sees the patient, and that simply reports on that isolated test, is of far less value than one done by someone who knows the patient and knows the other findings and considers the laboratory test in relation to all the other findings. With the laboratory there is always that lack of interest in the individual patient. That, to my mind, is the fundamental difference, and is the main objection against all advanced forms of social medicine. We could carry that principle into all things; into the removal of tonsils and adenoids as a preventive measure. We could carry it to the establishment of X-ray laboratories all over the state as diagnostic aids, and carry it on until we break down the work of the individual physician. As some of the speakers have already said, the states almost as a unit have adopted it, and certainly it is a hardship on those men who are attempting to build up clinical laboratories, which are of essential importance to the communities in which they exist. From the standpoint of fairness, there seems to be no reason why a patient who is well able to pay should have a Wassermann made and have his tonsils taken out free. To my mind, the financial side is the less important side of it, but the important thing is that, if carried to its logical conclusion, it is going to break down the relationship of the individual patient to his physician.

Dr. J. Bolling Jones, Petersburg: I did not hear Dr. Williams' paper, but, hearing the drift of the discussion, I am here in defence of the work done by the State Board of Health. I do not know anything done in recent years so important as the establishment of free Wassermann tests. I make Wassermanns practically routinely; always if a diagnosis is questionable. I suppose I have had as many as 800 or 1,000 done by the State. My Wassermanns run around 15 to 20 per cent positive, and I catch a positive Wassermann in many cases where, if I considered the patient's pocketbook, and had to send him to a private laboratory, I would not have had the test made. Right there, too, comes the question, and a delicate one, who is able to pay? And again, is the referring doctor to collect? That means keeping a separate set of books, which is additional burden and annoyance. Right now I owe our city laboratory $200 for Wassermanns, for which I believe I never collected but a very small proportion. To my mind, to stop the State Board from making Wassermanns would be a calamity to the state at large.

Mr. A. H. Straus, Director of State Laboratory, Richmond: I feel that this discussion is for the physicians rather than for me as director of the State Laboratory. There are two points of possible misunderstanding, however, that I want to straighten out. I do not believe that twenty-five per cent of the Wassermanns we get are from people able to pay. That statement, I think, is a mistake. Likewise, the appropriation, which I understood Dr. Graves to say we get for the Wassermann work, is a little more than we get for all of our work. I only wish we had as much.

It might be interesting to state that, in spite of the fact that the use of the laboratory for Wassermann work is continually increasing, our percentage of positives is holding up. The percentage of positive, by years, is as follows:

Year	1922	1923	1924
Per cent	19.6	17.2	19.2

We are still running approximately twenty per cent positives of all the Wassermanns we do. Last year we did approximately 19,000 examinations. This means that there is an enormous amount of syphilis being diagnosed by the State Laboratory. I am perfectly satisfied to leave it to you to decide how many of those 19,000 Wassermann tests would be done if the state did not do them without cost.

Dr. R. A. Martin, *Petersburg*: Reference has been made to the laboratory of the city of Petersburg. For the last six or eight years it has done all sorts of work extraneous to public health work. It sends a letter twice a year to all the physicians, stating that unless they collect for the work no charge is made. This letter distinctly states that unless a

fee has been collected from the patient no charge is made, so Dr. Jones' statement that he owes the city of Petersburg $200 is in error, unless he has collected that $200 or part thereof.

Dr. Williams, closing the discussion: I want to thank the gentlemen for this discussion, and to say that we are always glad to have from the individual doctors of the state criticisms of any line of work in which we are engaged. We want to carry on the work as the representatives of the medical profession would have us do. I was very glad to hear such a full discussion of laboratory work, but I could not tell from the discussion how many think we should continue the Wassermann tests and those who do not. I would ask those who think the State Board of Health should continue the Wassermann tests, as heretofore, to hold up their hands, and then those who do not. (Apparently several hundred voted in the affirmative, and only four were counted in the negative).

OBSERVATIONS OF A MEDICAL MAN AMONG THE MALAY TRIBES OF THE SULU ARCHIPELAGO.*

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Any attempt to discourse upon the subject of the physical, social or cultural characteristics of Philippine tribes is very likely to be misunderstood, for the reason that there is, notwithstanding the basic fact of a common Malay origin and kinship, not less than forty distinct tribes, separated one from the other not only by widely differing customs and tribal antipathies common among primitive peoples, but also by the more effective barrier of difference in dialect. Some of these tribes are large, and can boast of a high type of civilization, all of whom are Christians, many of whom have in their veins the blood of other nationalities and are educated, cultured people. Other tribes are small and less developed, and timid. Some dwell upon the broad plains and are agrarian in instinct. Still others live in the mountain fastnesses, and others live and trade much upon the sea. Some tribes are Christian, some Mohammedan, and others pagan. You will understand, therefore, that what applies to one may be totally incorrect for the other.

As one having had opportunity to study many of these interesting ethnologic groups at close range, I have come to have high regard for their many virtues, and I would not do them the injustice to tell you that the social conditions described in this paper are the pitiful conditions of Filipino people generally.

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There is an old Spanish simile about the weather of Manila, which says of it that there are six months of mud, six months of dust, and six months of both. Concerning the status of civilization of Philippine peoples it might be said, as of the weather, that five million of them are civilized and one million uncivilized, and that two millions of them represent an incomprehensible mixture of both.

This paper concerns itself with the physical and social conditions of one of the most backward and least known tribes of people in the world, inhabiting the jungle of interior Palawan, that far flung and rather lusterless gem of oceanic solitude being the very remotest outpost of American sovereignty in the Pacific ocean. Of this tribe of Batak savages it may be said that they are enthralled by ignorance so dense, and are so devoid of imaginative and creative intellect that they have not evolved anything so high as a fake medicine man.

We make no other claim of merit for this paper than that the facts related are authentic and represent a small contribution to the sum total of our knowledge of the living tribes of mankind. There is nothing in the literature of ethnology or travel describing the peoples of the region visited by the author. The actual number of travelers who have penetrated the jungle of the interior of Palawan, while not actually known, are few, and it will certainly be a long while before the wilderness round about Cleopatra's needle shall be listed in the itineraries of globe-trotting tourists.

The picture we would exhibit for your enlightenment is that of a present-day sociologic phenomenon that, stranger than fiction, is developmentally contemporaneous with the musty facts of archaeology, dating back beyond the horizon of formal history. We found there in the dank and humid primeval forests of this tropic island province a picture of human life as it is still being enacted at the very bottom of the ladder of social development—a tribe of isolated human beings who must be classed as savages, and who yet in this twentieth century, under the government of The United States of America, still take to the forest, having but the crudest implements of wood, roving hunters traversing thicket and hill, wearing the bark of the trees about their loins, eating out of the hand of nature, and living by the hazards of migration and war-

fare—an environment of twelve thousand years ago, a time when your ancestors and mine were shaping similar crude implements from wood and stone at the entrance of solitary caves on the bank of slowly receding post-glacial streams of Europe.

We make use of the word "savage" in its ethnologic sense, with no intention to convey the idea that these people are ferocious cannibals, or that their customs are heinously cruel, or that they are hostile to strangers. Please understand it to imply that they are wild men, timid and afraid; that they recognize neither well defined conceptions of time, space or distance; that they do not understand relative material values, and that they are as yet uninfluenced for good or evil by any form of civilization. Travelers have described more picturesque pagan tribes, peoples more given to heinous forms of deviltry, but one needs to be reminded that organized treachery and systematized cruelty and picturesque customs are in themselves evidences of advanced evolution of social forms, and represent developmental states of mind far in advance of the human individual we here describe.

After more than twenty years of endeavor, unparalleled in the history of colonization schemes, to substitute the light of intelligence for the darkness of ignorance and savagery in these benighted isles, this tribe of Batak Malays are today exactly what they were when the world was young—primitive savages, isolated from the rest of the world, timid to the point of avoiding contact with other bands, exercising hardly any other than creature intelligence born of fear and hunger, into whose lives there has not yet come any knowledge of worlds outside their narrow jungle haunts, much less any conception of science, or art, or government, or the blessings of a religion of hope.

Sociologically and politically the Bataks, of Palawan, are relatively unimportant factors of the Philippine polyglot population, and their habitations are the most inaccessible of all Philippine tribes by virtue of the fact that the province of Palawan is far from the centers of education and commerce, and remote even from the main lines of ocean travel, and comprises more than a hundred islands scattered at wide intervals over an area of twenty thousand square miles of typhoon-swept seas, and that there is not a mile of trail anywhere deserving the name, and no better means of navigating the seas than mere egg-shell outrigged canoes. Inhabiting these lands are tribes speaking different dialects—very real obstacles, these, in the way of progress and peace now so well established among the larger and more favored tribes of Luzon and Mindanao. In the face of all these hindering circumstances of geography and evolution, however, be it said that there are schools in many parts of Palawan where the rudiments of a common English language and the elementary principles of orderly civilized life are being taught alike to the children of the civilized Filipino and the non-christian, clout-wearing wild men of the hills. The Batak, however, has not shared in these advantages for the reasons mentioned, and because of his primitive aloofness and the migratory nature of his existence. The fact remains, whatever the cause, that to date nothing has been done to lift from this tribe the heavy thraldom of ignorance, poverty and filth, and that they still inhabit the trackless jungle and subsist upon lizards, monkeys, edible roots, creeping vermin and wild honey; that they know nothing of the wonderful possibilities of the soil, and that they are reeking in filth and disease.

It is said they are decreasing in numbers, due no doubt to the fact of being segregated into so many small and unfriendly tribal units, in consequence of which few intermarriages take place. Few children are born, and fewer survive, to these consanguine marriages of individuals of the same closely related band. Judging from the almost complete absence of children in evidence among them, they would seem as having not more than another generation of grace, though very often, as I found out, the absence of children was more apparent than real. Careful scrutiny of the bushes nearby frequently revealed hiding forms of these frightened little creatures who, if you approached them too closely, would go falling over each other in a wild scramble to keep under cover of the brush.

The Batak country is imperfectly defined, though not extensive in area, being that central mountainous portion of the northern half of the province of Palawan, lying back of the coastal civilized settlements of Tinitian, Babuyan and Green Island bay, and being some fifty

miles north of the capital of the province, the old Spanish town of Puerto Princessa. There are no geographical boundaries; it is a land where the rivers and mountains are, for the most part, nameless. The Moro is the only ethnological group, of the non-christian tribes hereabouts, which may be said to have developed tribal consciousness. Pretty generally these backward peoples have not yet come to the point in human development where they may be said to have a conscious pride in a sense of ownership of the hills and valleys over which they roam. They dwell wherever nature's food supply is the most plentiful, and do not establish permanent places of abode. They have only the merest beginning of ideas of government or religious institutions, and there seems neither warp nor woof to their pitiful social fabric, nor any recognizable conscious cohesive influence different from the basic animal instinct of self-preservation. In nothing yet that is definable are they held together in units larger that mere handfuls. Each small settlement seems to be entirely independent of any other, and is, indeed, pretty generally hostile toward other similar small groups of people racially their own kin.

Toward strangers they behave as though obsessed with fears. The white man is still a curiosity to them. Around their night fires they grope imperfectly at vague rumors of men with red faces having fearful weapons, coming from they know not where across the seas in monstrous fire belching ships, speaking in harsh voice, and being rude and powerful, and doing things of fearful aspect. They have heard that in that far-off land of the white man there are houses as high as the tops of the forest. At the conclusion of such a feast of fear the participants would most likely gather up their children and their dogs, their blow-guns and bamboo spears and go a little deeper into the jungle, abandoning their erstwhile places of abode.

These people are, withal, simple minded and distinctly human, and they possess those several homely characteristics that belong by nature to primitive man everywhere inrrespective of race or clime. Whenever opportunity permitted us to announce our visits in advance, and we assured them of our friendly intentions, we were almost always met somewhere near that indefinable border of their territory by several males of the tribe who served us as guides. It would be quite useless to visit their settlements without taking this precaution, as on the unannounced approach of a white stranger they would run away. Such a course, too, would be too severe a trial of their superstitious fears to be risked unnecessarily. By the other and safer method of approach their fears were soon dissipated by frank and kindly overtures of peace, in which some gift was always made a part.

In an experience of more than three years, among some ten or twelve tribes of what are still known as uncivilized people, I found that one particular virtue stood head and shoulders over and above everything else in its persuasive power to win and impress the mind of the primitive savages, namely, plain and simple honesty. Nothing else is so potent to dispel their dire forebodings as honest dealings with them, and by this I mean, more than anything else, just keeping one's word inviolate. They are not traders. They seem not to have ideas of relative values. We made all bargains upon our own terms. At the end of a day's march under a heavy load a man would be quite content and happy to receive as much cooked rice as he could eat, or a handful of blue beads. If, instead, you gave him a silver coin he would be certain to disappear and never return. At the end of two weeks of faithful service, several men had earned two whole bags of clean white rice, which was more than they had ever seen at one time in all their lives. We boated it off to them on the beach. It was night when we left them. Long before morning the news had spread over the traditional grapevine telegraph, and instead of taking the rice home on their backs for another day, the whole tribe with their dogs and hanger-on parientes (friends) of their own and nearby tribes gathered on the beach and devoured what they did not waste.

Here and there along this lonely coast are yet to be seen the slowly crumbling remains of grim reminders of times not very remote when the peoples of these isolated regions suffered terribly from fire, rapine and death at the hands of veritable swarms of Sulu sea pirates. In the early days Jesuit and Franciscan friars visited this coast and set up their altars, and they built strong stone-masonry enclosures, or forts, in nearly all of the larger settlements—

large enough to accommodate the entire population of the parish together with their stores and scanty stock. Frequently in the center of these forts was built a handsome cathedral church. Into these enclosures, at the first warning from the man on the topmost watch-tower, the vigilant friar gathered his flock and barred the doors with heavy timbers. Bloodcurdling stories are told of how very often these became veritable death shambles. The infrequent visitor today needs nothing more than the markings high up on these old ramparts to enable him to visualize the scenes of heroism and valor that took place there. At Dumaran, Taytay, Culion, Cuyo, Iloilo, Zamboanga and Jolo are conspicuous examples of these marvelously well-planned and still well-preserved forts of refuge. The most remarkable of them all, however, is the entire walled city of Manila, with its erstwhile moats and drawbridges and detached bastions and watch-towers, and its separate fort by the broad Pasig River, that knew no defeat until the very hell of Dewey's fleet turned loose its awful fire on that fateful day of May, 1898. These old and now deserted ruins tell a tale of suffering which the timid hill peoples were unable to escape always. It is a fact too well known also that these backward people of the bushes have a great deal to fear in their contact and dealings with their more fortunate Filipino neighbors living in the civilized barriers on the coast, and this very fact is pregnant of a whole world of trouble for an independent Philippines.

It may be said with fairness and truth that the pagan tribes generally have been easy factors to handle by the American authorities—both civil and military. Among them our policies of a square deal have won a harvest of appreciation. My own personal experience with this tribe of Bataks was that very soon they abandoned their worst fears and became friendly and tractable, and showed a willingness for friendly intercourse on the grounds of a strictly square deal. This has been the experience without exception of parties of Americans operating in the localities of primitive peoples all over the Philippine Islands for twenty years. Among groups of these Bataks that at first were the most mistrusting, I have enjoyed the entire freedom of their settlements and their poor makeshift shelters. I would have it known that we never carried fire-arms among them. Within these miserable shacks I have rested from the withering rays of the tropical sun and squatted cross-legged on the bamboo floor while the curious populace of the bushes sneaked tremblingly in from behind, and up through the floor, and down through the roof—reminding us of the palsied son of Capernaum; and they soon pressed quite close and sat in like fashion about me, though with more grace and I trust more comfort. They came a little too close sometimes for a full olfactory enjoyment. We would almost always have found the shade of the jungle more enjoyable and certainly safer; but prejudicial bars must be let down if you would enter their simple shrines and partake of their friendship, than which there is no other item of equipment more essential to a safe and satisfactory sojourn in their country. They freely exhibited their bows and poison-dipped arrows, their blow-guns, bamboo spears, their beads and bark cloth, and they brought us on palm leaves a wriggling pasty mess of honey comb alive with larval bees, into which like so many monkeys they dipped their dirty fingers and invited me to do likewise. In this dilemma I dipped one finger into the seething mess, with pretense of gusto, but put quite another finger into my mouth. These simple people are possessed of a rudimentary idea of hospitality that is touchingly human and refreshingly free from conventionality—certainly in pleasing relief to their otherwise almost totally unattractive lives.

They exhibited keen interest in such articles as a pocket knife, a policeman's whistle, or a watch. A gold finger ring would, I think, have pleased them best as a gift. To them our long-distant surveying instruments and other scientific instruments must have seemed like devices of diabolical import. With a pocket flashlight every mother's son of them could easily have been chased in mortal fear of its mysterious fire into the bushes. By that little piece of child's play, as old as the hills, of tying the magic knot between my teeth, my reputation as a wonder-worker became immediately established; and when I siphoned water through a small rubber tube up over my shoulder out of my canteen at my side they were ready to a man to fall down and worship. There is nothing in Holy Writ to indicate that the skill of Pharaoh's magicians merited

for those wily old fakirs any stronger bid for divine powers than I might have made, and, indeed did make, for myself. It is, however, very likely that those slippery old heathen of Egypt had a more discriminating and ably analytical audience than of Bataks. We found out, however, that it is difficult, indeed impossible, to live up to and maintain the reputation temporarily begotten of these performances of the mysterious, and that very soon even these seemingly credulous folk were able to gauge our abilities along this line by their true merits. In short, nothing is gained in the employment for any purpose whatsoever of the agency of mystery in any form. Nothing else is quite so certain to reach the heart of the ignorant savage as complete frankness and understandable intercourse with him. He appreciates gifts. To him they imply friendship. Among savages, gifts are very much what they pretend to be, and what they should be. They lay stress upon the substance rather than the form of the giving. The really primitive individual will almost never receive your gifts and subsequently act treacherously with you. This is true of peoples uninfluenced by any form of civilization.

Among themselves as individuals they seemed peaceable and kindly disposed. It is the manner of life for a dozen or more persons, with as many mangy dogs and friendly pigs, to share the scant comfort of a single shelter constructed of poles and grass. They employ precious little to accomplish the sum total of their lives, and left alone—to follow out what seems to be their purposeless existence—they need little more than they already have. They actually seem to want nothing. They accept food. This is the gift they most appreciate, and rice is the one best food. Next, in point of desirability, are beads and brass wire which are used in making the crudest of ornaments for personal adornment. The bolo is an inseparable concomitant of Malay culture that with varying forms is found in use by every known tribe of the Philippines. This tribe of Bataks, and the Manobos, of Mindanao, and the aboriginee Negrito widely scattered over the entire archipelago, are the only tribes, I believe, who do not actually make some kind of a bolo. These have not yet borrowed or evolved anything so high in mental development as the intelligence required in the handling of metals. Among the Bataks I have seen only a few cast-off bolos that were doubtless dearly enough bought from other Filipinos.

Their houses are the poorest, offering nothing but very imperfect shelter from rain and sun. There is no occasion for protection as against cold. There is displayed absolutely no conception of the idea of sanitation. In their persons they are cleaner than animals. They have no cooking utensils, and no storage receptacles for food or valuables. Fire is for the most part borrowed and kept alive for long periods. As well as I could gather there are a few old men who know the art of making fire by rubbing sticks of bamboo together in some certain manner until it actually ignites, but this I have never seen accomplished. They know the use of flint stones struck together for spark, which latter is caught in a highly inflammable vegetable substance readily yielding fire. This latter is a fairly common method of fire getting among primitive people generally here and elsewhere. They do not need much fire. Meat is roasted on bamboo spits and eaten without seasoning. A few pieces of broken old earthenware pots which they had probably stolen from the nearby village of Filipinos and of probably Chinese origin were the only cooking vessels that I saw anywhere. They are said to understand the art of cooking rice in joints of bamboo, something which I have seen other primitive people, but never a Batak, do. The floors of their houses, if they deserve to be dignified with any name at all, are laid with small bamboo in the best specimens I saw, several inches apart, so that there are correspondingly large cracks in them. In others not as well constructed, I saw variously sized and shaped forest saplings the size of a large bean pole laid down in similar fashion. All manner of dejecta is disposed of through these cracks in the floor—a most convenient arrangement. Lean and mangy dogs and razor-backed pigs wage incessant scavenger battles underneath, warfare that is some times enlivened by the participation therein of some less fortunate vagabond of the settlement. In this battle of self-preservation waged by this alien trio, it would be hard to discern the fiercest foe or pick the winner in advance of the fact of victory. I have seen a peaceful dinner party set upon by several hungry dogs, having their backs up and their ugly teeth

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showing threateningly, with such fierceness that they were only ejected after each scowling canine had gulped down pretty nearly his due portion of the provender, not infrequently taking with each hurried morsel a goodly part of the palm leaf on which it formerly lay spread. Finally, of course, each hound of them were kicked bodily into the bushes, yelping and snarling, but satisfied to have come off with something substantial in their stomachs, and therefore content to while away the remainder of the afternoon in their accustomed and well-earned sleep, and without further worry or molestation. I have frequently witnessed the disgusting scene of babies and puppies quarreling in a woman's arms for the same breast.

Their places of abode are transient, nearly always considerable distance from the settlements of their civilized Filipino neighbors, and always at some isolated unfrequented spot, to find which you will lose the trail many times in the dense jungle, and wade knee-deep through crocodile-infested swamps, and climb up over crags, and balance yourself on the ragged edges of steep cliffs at eminent peril of life and limb. It is a queer, indefinable sensation that accompanies the traveler, alone in this veritable no-man's land, tracking the evasive savage through the tropical forest primeval to his home in the very heart of nature; to find living in these out-of-the-way places, practically unknown to and entirely independent of the rest of the world, human beings as ignorant of themselves as we are of them, the descendants of Adam still covering their loins with the leaves and the bark of the trees; eating contentedly out of the hand of God; taking not into account tomorrow; asking nothing and receiving little; apparently content to live and to die, with what little vision of hope or promise we as yet know too little of them to say.

Physically the Bataks do not run true to any distinct type. Some of them possess the characteristics of the aboriginee Negrito. A Dr. Edwin Y. Miller, writing in the ethnological survey publications of the Bureau of Science, at Manila, P. I., says in his brief description of these people that they—implying all of them—have long kinky hair and thick lips. Quite contrary, some of them are of good physique, with medium heavy, almost coarse bony frame, with prominent cheek bones and heavy long straight black hair. A considerable number of them, both men and women, show in these physical features a strain of blood that is unrelated to the Negrito. However, as this writer implies, the Negrito characteristic of kinky hair and thick lips and diminutive stocky frame does apply, though in modified form, to a goodly number of Bataks. These modifications are noted in the fact that the Batak's hair, while often kinky, is not the short kinky tuft of the Negrito, but long, coarse, wavy, frizzly hair with marked tendency to stand up on ends; and, further, by the fact that, whereas their lips are thick, they are almost never the vulgar protuding crimson-bordered lips of the Negrito, but of a much more delicate mold. Also, the frame of the Batak possesses distinctly something of grace and proportion that is utterly lacking in the make-up of the Negrito. By reason of their bushy heads and other negroid characteristics, they have been likened unto the Bushmen of Africa. On the other hand, in their Malay characteristics they are said, with as much justification, to resemble the interior tribes of the Malay peninsula. It is but natural to suppose that they are in reality exactly what these attributes of form proclaim them to be—Malay-Negrito mixed breeds.

Many of them crop the hair short over the front half of the crown of the head. Their long kinky hair standing on ends over the occipital portion produces the effect of a particularly ugly sunflower, though now and then you do see an individual having a pleasing facial expression.

Nearly every tribe of wild people concerning whom little is known is sooner or later by somebody said to possess physical freaks. The Batak myth men with shaggy haired bodies remain still a myth.

Their only weapons consist of the bow and arrow, the blow-gun with its poison-dipped darts, and long spears—all made of bamboo. Their enemies are reputed as having profound respect for the blow-gun, wherewithal the Batak shoots, with marvelous accuracy, as I have witnessed, a small poisoned arrow or dart. Unless this little missile pierce the heart or some other vital spot of the anatomy the wound from it would in itself be of little consequence, but the poison is said to be quickly fatal to man

or beast. An animal shot with one of these poisoned arrows quickly succumbs, but it is only necessary to cut out the part immediately surrounding the path traversed by the arrow to render the remainder safe to be roasted and eaten.

The blow-gun consists of two small straight tubes of bamboo of even calibre, laid end to end in bees-wax and embedded in a single larger sized rod of the same material but which has been split to receive the former and again refastened by rattan (bejuco), in such manner that the single barrel of two inner sections is held rigid and straight and air-tight at the joint. The finished gun is about seven feet long, barren of ornamentation usually except perhaps a few rings crudely and imperfectly etched on the sheeny surface of the bamboo, and later stained with some vegetable substance. I could not learn that they ever make any other use of dyes. The dart used in this device is about fifteen inches in length, and about as thick as the slate pencil of our earlier days; its business end is notched and pointed, and its after-end mounted by a truncated cone shaped piece of pulpy wood which fits the barrel of the gun. In use, one end of the gun with arrow inserted is encircled with the thumb and forefinger of the left hand and held tightly against the lips, and the whole thing manouvered into firing position by the right hand. This having been accomplished, the user inflates himself with air to the extent of safety, by expelling which through the gun with sudden and powerful force and guided doubtless by the eyes, the dart is sent at incredible speed and penetrative force. It is not really known to what extent the blow-gun is actually used in offensive or defensive warfare. Nobody investigates squabbles in these interior valleys of Palawan. Internecine warfare is wholesome and necessary to break the monotony of life hereabouts. This tribe has given no trouble to the powers that be, and a policy that is sympathetic and wise will not too actively busy itself with worrying about such matters. No white man has ever been harmed by them. In all likelihood the weapon we have described is used more for shooting monkeys, wild chickens and pigs than anything else. If the reputation for potency attributed to the poison they use on the tips of these small arrows is to be relied upon, and I should believe that it is fairly well established, then the blow-gun is a weapon much to be respected for its direful potentialities.

The Bataks live close to nature, but precious little do they know or suspect of her boundless treasures. None of her forces have they brought under subjection. They would appear to be entirely lacking in creative intellect. They do not cultivate the soil, and do not accumulate or store food products as against a needy day, and they market nothing that I could learn of except the resin of a certain tree which, I believe, is collected and traded for beads and bolos.

In the matter of dress they emulate right closely the pattern adopted in the garden of Eden, going father Adam one better in the substitution of beaten bark cloth for fig leaves. From bark fiber they obtain by a process of drubbing and pounding a pretty fair substitute for cloth. This coarse material is worn about the loins in what is commonly known as "gee-string" fashion by the males, and by the women as a single encircling girdle in the manner that one might wear a scant bath towel. It is held in place in the latter instance by strips of rattan. This garment, if it deserves any name at all, extends from the lower waist to somewhere above the knees. The process of manufacture of this crude makeshift article is quite simple. The inner tough, white, fibrous portion of the bark of a young bago tree is obtained by stripping and later beaten with a cudgel having a flattened notched surface. The pounding it receives is always between wood surfaces, as stone would destroy the fibrous texture of the finished product. A piece of bark fiber six inches wide as it comes from the tree may be thus treated and stretched to a width of several feet, and, when finished, washed and dried, is a fair substitute, as we have said, for cheap coarse cloth. It never afterwards receives other than its initial washing. A skirt or gee-string is worn continuously without change as long as any significant portion of it holds together, occasionally with reckless abandon of proprieties, of which, be it said in their defense, they are blissfully unconscious.

As in everything else, they employ the simplest and crudest means of personal adornment. The only efforts of this kind I saw consisted of wearing dried grass and flowering twigs in

their hair, or several strands of differently colored beads across the shorn part of the head. They will use only red, blue or black beads. A belle who affected to be quite dainty for our delectation wore rattan armlets, a pair on each arm above the elbows, and held in place by them on each arm was a boquet of flowering weeds, which latter did not display much taste in their selection or arrangement. They sometimes wear large quantities of rattan in long encircling strands wound around their wasits, though never in anything approaching the engaging style affected by other Malay tribes in Borneo and elsewhere. They have attempted nothing in drawing, or carving, or coloring, and if there be creatures or objects of adoration, or any symbols of beliefs they entertain, we failed to discover them.

Their lives are almost entirely devoid of social forms. The marriage ceremony hardly deserves to be called such. The feast idea is embodied in it, but it is almost without ceremony. The prospective bride and groom eat rice from the proverbial palm leaf, and do some exchanging of portions. There is no dolling up for the occasion. The cooked rice is messed up into a round and pastry bolus as large as a hulled walnut in the palm of the hand and rolled and stuffed into the mouth, first with one, and then another with the other hand; all the while the participants are squatting on their haunches, and slapping their sides, and scratching their legs and wiping smeary fingers on that portion of their anatomy most handy—altogether a very convivial affair. There seems not to be anything more to it than feasting together. Another and also unceremonious performance, which I believe is the one more frequently indulged in, consists in the groom's procuring the consent of his damsel, and of the bride's father if they be sticklers of form, and proceeding with her into the virgin forest, symbolical of her virginity let us hope, there to spend a more or less prolonged and doubtless enjoyable honeymoon. Ceremony in either instance is reduced to a minimum, and the entire cost of trousseau, honeymoon and setting up to housekeeping is, figuratively speaking, nothing! Fidelity between husband and wife is said to be the rule. Adultery, I have been informed, is punishable by whipping, provided the offended party is able first to catch the offender, and, secondly, able to administer the punishment. The theory, it seems, exists in principle. Polygamy and polyandry are said to be common practices, though the charges made were by unreliable Filipinos and I was not able to verify or contradict them.

Their bodies are almost invariably begrimed and unsightly. While not ornamental from the standpoint of art, I have seen wonderful topographic specimens of mixed dermatoses which possessed in pathological interest what they lacked in beauty. I have seen the map of every country on the globe—now also figuratively speaking—and several fancy wall-paper designs all pathologically tattooed upon the surface of a single person, each separate design no doubt representing a different type of skin parasite engaged on the job.

It will be understood that nothing approaching reliable data regarding health or indeed anything else were obtainable. Infantile mortality is shockingly high. As an evidence of the primitive simplicity of the Batak's mental processes, I was unable, through interpreters who at least claimed they understood me, to obtain answers to any questions embodying ideas of a collective nature. I might ask and find out that one person had recently died, but if I asked if many had died, or how many, then my meaning was too obscure. They knew how to follow a trail to the top of a certain mountain which, let us say, we could see, but they could not tell us how far, or by what routes, or if there were impassable rivers. They knew, for instance, that following a certain trail they would fetch up at another certain settlement, but it would take you all day to find out in advance when you would arrive, or how large a settlement, or if the people were friendly. Success and safety among people such as these requires the development of a sixth sense that is alert and penetrating and sensitive to an entirely new lot of impressions.

Life's span with them seems to be short. The older persons we saw could hardly have been fifty, and most likely were nearer forty. That broad plain of usefulness and happy activity that among peoples of the temperate zone lies in between maturity and decline is with them very narrow. They seem neither young or very old. It was quite useless to ask their ages. There is not a Batak in Palawan who has the slightest idea as to how old he is, for they have no knowledge of the annu-

lar cycle. The aged are pitilessly neglected and often abandoned to die miserably. Disease is regarded as of some evil omen. Groups of huts are deserted and sometimes burned when visited by sickness and death.

The impressions that one receives early and that remain most indelibly upon the mind regarding these people is that they are hideous in their filth; that they are outlandishly mangy, and that they are poorly nourished. They are just that. If I were to venture a guess as to their greatest need, it would be *food*. Having seen with my own eyes how inadequately whole tribes of people are actually fed and how pitifully undeveloped in mind and body they are, one comes to have a fine respect for good food. I have seen individuals of these ill-fed and mangy creatures taken out of their unfavorable surroundings and put at hard labor on a regular and balanced ration, with a daily bath and clothing to wear. It requires only these latter conditions and four months of time to produce a new and higher type of man hardly recognizable by his own mother. We are made to wonder, very naturally, what changes would come to a whole people as backward as these Bataks if they could be lifted out of their lethargy and filth and slow starvation and placed in the sunlight! Contemplate, if you can, the accumulative effect of generation after generation of impoverished blood, muscle and bone; the effect of continued ravages by veritable armies of destructive parasites—both external and internal—and then you will be able to visualize that race of degenerates we here so inadequately have described.

The disease entities that are responsible for the greatest amount of sickness and mortality are chronic dysentery, malaria, and a febrile disorder which closely resembles dengue fever, but known in these parts as Pal-a-wa-ne fever. These disorders, under more favorable circumstances, are controllable and curable. As yet, their ravages are unchecked by the benign hand of modern sanitation and medicine, and work havoc among people weakened by anaemia and starvation. Filipinos generally are poorly nourished. Surgeons are well aware of their feeble recuperative powers. They are, therefore, poor surgical risks. They succumb readily to most all devitalizing influences.

There is recognizable on the bodies of easily two-thirds of all Bataks some parasitic skin affection. These are, as we have already referred to, frequently all mixed up together. It is a most common sight to distinguish three or four forms of parasitic skin disease on the same individual. Favus is frequent. Tinea cruris, often called dhobie itch, becomes a joke, because of its widespread occurrence among all classes, native and foreign. A native without it would be a curiosity. Tinea imbricata is the most widely distributed filth-borne skin affection, and is nearly universal among all of the southern pagan tribes. Their bodies are frequently covered from the hair line to their heels, one complete conglomerate tattoo of unequally concentric rings and whorls of horny scales. I have many times seen adults so thickly covered over with scales that there was not a single square inch of skin surface left unassailed. The discomfiture of these unfortunate souls I respectfully leave to your wildest immagination.

GROSS ENLARGEMENT OF THE VERMIFORM APPENDIX—REPORT OF CASE.*

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In this paper a brief review of tumors of the vermiform appendix will be given, and a report will be made of an appendix, which, although by no means as large as several others reported in the literature, was of unusual size and which at operation presented technical problems of considerable interest.

Tumors of the appendix may be placed in three groups:

1. Cystic enlargements.
2. New growths.
3. Inflammatory tumors.

The first group contains a large number of cases; Hamont and Mathieu[1] found 180 in the literature in 1923. These cysts vary in size from a small marble to great tumors. The two largest recorded were one found by Kelly[2] at autopsy, which measured 30 c.m. in length and 15 c.m. in circumference, and another removed at operation by Neumann[3] which was described as being the size of a man's head. The cause of the great majority of these cysts is obliteration of the lumen of the appendix at or near its base; this obliteration is usually the result of inflammation, and occasionally a new

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growth may block the canal. Rarely the cyst may arise as a new growth from the mucous membrane. As the cyst grows in size, the various layers of the wall of the appendix become much attenuated and may be destroyed. The muscular coat is often replaced by fibrous tissue. The cysts in the early stages of development contain mucus, while those of long standing have a gelatinous material and rarely they contain a thin watery fluid. Graves[4] reported such a cyst. The proximal 1.5 c.m. of this appendix was a small cord without lumen, while the cyst measured 16.5 c.m. in length and 3.5 c.m. in diameter and was filled with thin clear fluid. Dodge[5] found in the literature six cysts the contents of which were described as purulent. Dodge also noted from the literature cases in which the cysts were ruptured by gentle manipulation and others which ruptured spontaneously. These resulted in pseudomyxomatous masses or in a pseudomyxomatous condition of the whole peritoneum.

Cyst of the appendix has never been diagnosed prior to operation. The symptoms are usually those of chronic inflammation of the appendix and the signs also those of that disease unless a mass can be felt, in which case it is likely to be diagnosed as some other condition. The operative removal of these cysts is usually not difficult, because the base is obliterated, or very small, and can be treated in the same manner as any appendix stump. There is, therefore, little more risk than in the removal of the ordinary appendix. At times, however, the cyst may so involve the cecum that resection becomes necessary and, if this is done, the gravity of the case becomes greatly increased.

New Growths—Benign tumors are quite rare. Polypi of the mucous membrane have been reported; these tumors are usually small and are discovered only when the appendix is opened. Kelly[2] cites a case of fibroma of the mesentery of the appendix which so involved the ileum, appendix, and cecum that resection of the bowel was necessary. He also states that myomata and lipomata have been occasionally reported.

Between the benign tumors and the frankly malignant tumors we should consider the spheroidal cell carcinoma. This tumor formerly was regarded as malignant, but in recent years some doubt has arisen as to its malignancy. Monks[6] reported a case which he examined five and a half years after operation with no evidence of recurrence. This is typical of the reported cases, for all are said to be cured and almost all after simple appendectomy. No extension of this tumor either in the nearby tissue or in the lymphatics has ever been observed. It would seem, therefore, that there is no clinical evidence of its malignancy. Wohl[7] believes that it is not malignant but rather the result of an old inflammatory process.

Cancer of undoubted malignancy has been reported fairly often and is usually described as colloid carcinoma. This condition is never diagnosed before operation and, when small, may be overlooked until the appendix is examined in the laboratory. Boyer[8] says that carcinoma, including the spheroidal cell tumor, is reported as occurring in 0.13 to 0.49 per cent of all appendices. Carcinoma of the appendix occurs in younger people than is usual for cancer, the greatest incidence being in the third decade. The tumors are removed earlier than cancers in other parts of the body, probably, as suggested by Reimann,[9] due to the fact that the tumor causes an inflammation, and this gives the symptoms which result in early operation.

Sarcoma of the appendix is very rare. Goldstein[10] in 1921 collected sixteen cases and added one of his own. Wohl reported a case in which the appendix was thickened and the induration extended into the cecum. The diagnosis of sarcoma was not made until later by microscopic examination, and the appendix only was removed. There was a recurrence of the growth in a few months and the patient died. He found that only three cases of ten reported at that time (1916) had lived as long as two years.

Inflammatory Tumors—Tuberculosis of the appendix occurs usually in a patient who has tuberculosis of other parts of the body. It may be the only abdominal manifestation of the disease, but not infrequently the cecum is also involved. If the disease is limited to this portion of the intestine, resection of the involved area should be done. The appendices of unusual size, due to the ordinary pyogenic organisms which I have found reported in the literature, have given symptoms that are in

no way unusual for acute or subacute appendicitis. In fact, usually the symptoms and signs have been quite mild. Strong[11] reported the case of a man fifty-four years of age whose appendix measured six inches (15 c.m.) in length and two and one-eighth inches (5.3) c.m. in the greatest diameter. The lumen of the appendix was filled with pus; it was described as not cystic, and the microscopic examination showed only an inflammatory reaction.

Howard[12] reported a boy of eighteen who had had repeated attacks of appendicitis. When his appendix was removed, it measured five inches (12.5 c.m.) in length and three and a half inches (8.75 c.m.) about its greatest circumference. The lumen of this appendix was filled with pus and there was no suggestion of cyst or diverticulum.

Jopson[13] reported an appendix 7.5 c.m. in length and 4 c.m. in diameter, which he removed from a woman fifty-eight years of age. This appendix was located behind the cecum and had no mesentery. The microscopic examination showed acute and chronic inflammation. He suggested that this appendix was a reversion to the type of appendix seen in lower animals.

Packard[14] reported a case of a man fifty-three years of age whose appendix measured 7 c.m. in length and 1.5 c.m. in diameter. It contained two huge concretions and had perforated.

Crouse[15] reported a young man about whose appendix and cecum there was a hard mass mistaken by him for a malignant tumor. He resected the cecum and lower ileum, did an end-to-end suture of the bowel and the patient recovered. The tumor was a mass of inflammatory tissue outside of the appendix.

My case, whose history I will now record, was strikingly like these cases in that nothing unusual was suspected prior to the operation.

The patient, a man twenty-seven years of age, was admitted to Stuart Circle Hospital on December 9, 1924. He had had abdominal pain, located in the right lower quadrant, for three days, but during the day of admission it was more marked. He had slight nausea but no vomiting. The only past trouble of any significance was an illness of two weeks' duration with abdominal pain and diarrhea while in the army six years ago. He had occasionally had mild digestive symptoms. The abdomen was not distended, there was well localized tenderness in the right lower quadrant and rigidity of the right rectus muscle. No mass was felt. The temperature was 100°, pulse 100, leucocyte count 18,000, polynuclears 89 per cent, lymphocytes 11 per cent, and the urinalysis was entirely negative. The diagnosis of

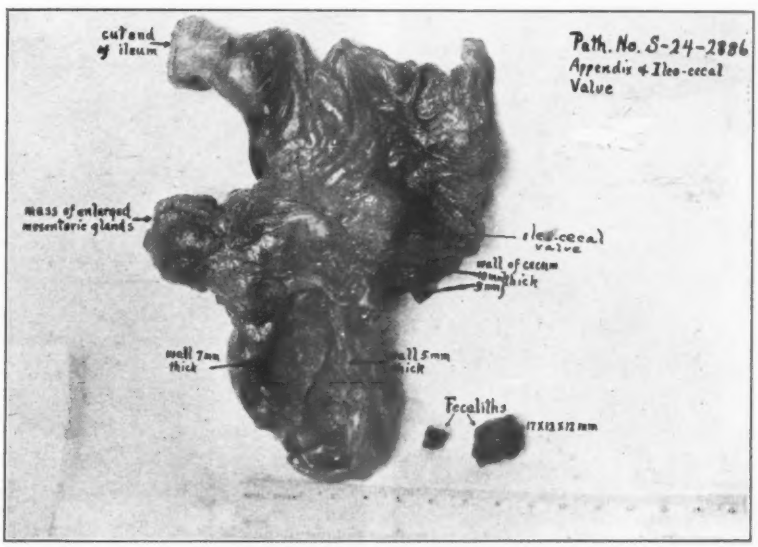

Fig. 1.—Photograph of the gross specimen. The appendix and cecum have been incised and laid open.

acute appendicitis seemed clear and operation was advised and accepted. The McBurney incision was made and an enormous appendix was seen extending downward into the pelvis. The incision was enlarged by cutting the muscles upward and the rectus sheath downward and a large mass was delivered. It consisted of the appendix, to which the terminal ileum was adherent, the cecum and a mass of enlarged lymph glands in the meso-appendix. The appendix was the size of a small banana, measuring four inches (10 c.m.) in length and one and a half inches (3.5 c.m.) in diameter, and the mass of glands was the size of a hen's egg. Other enlarged glands extended upward in the mesentery of the ileum. The tremendously thick wall of the appendix extended into the head of the cecum where the wall including the ileocecal valve was almost a centimeter thick. It was obviously impossible to remove the appendix or to amputate the cecum without endangering the ileocecal connection. From the appearance of the mass and the lymph glands, it seemed likely that the tumor was a malignant new growth secondarily infected. The acute inflammation was so severe that removal of the appendix was necessary, and it was therefore decided to resect the lower ileum and cecum. The mesentery was severed, removing the glands as far upward as possible, and at points well beyond the inflamed area the bowel was crushed and severed between clamps with the cautery. The method of aseptic suture described by Kerr[16] was used, in which the ends of the severed bowel are turned in by a basting stitch and the closed ends united. The lumen was restored after suturing by removal of the basting stitches. The wound was closed without drainage. The patient had an uninterrupted convalescence. The pathological report by Dr. Charles Phillips is as follows:

"This specimen consisted of a short piece of the ileum entering the ileocecal junction, a short piece of the cecum and a tremendous appendix. All this material was acutely inflamed and the walls were stiff and edematous, except for a healthy margin at

Fig. 2.—X-Ray photograph of the lower ileum and colon after barium meal, two months after operation.

Fig. 3.—X-Ray photograph of the colon after barium enema, two months after operation.

each end of the gut. When cut open a severe acute inflammation was found, the lumen being filled with thick bloody pus. Near the beginning of the appendix there are several fecoliths partially embedded in the mucosa and wall. Two of these are jagged and black and one smaller one has flattened surfaces like a gall-stone. All the mucosal surfaces adjacent are acutely inflamed and the ileum pouts into the cecum with swollen reddened edges. In a piece of attached mesentery there are numerous firm enlarged lymph glands.

"Microscopic Description—The appendiceal wall shows the usual acute inflammatory reaction and in addition in some places a diffuse lymphoid infiltration. In the muscle walls there is in places an intense eosinophilia.

"Pathological Diagnosis—Acute purulent appendicitis with two fecoliths in the lumen. The acute inflammatory process has involved the adjacent cecum and ileum and this is much thickened and infiltrated with inflammatory reaction. The appendix proper is enormous in size compared with the average. The lymph nodes in the mesentery show only an inflammatory reaction."

Two months after operation an X-ray study of the gastro-intestinal tract by barium meal and enema was made by Dr. Fred M. Hodges who reported the whole tract negative. It was particularly interesting that there was no unusual regurgitation from the colon into the small bowel when the enema was injected.

This appendix is remarkable for its size, but it is particularly unusual in the continuation of its greatly thickened wall into the wall of the cecum and the ileocecal valve. It so resembled a new growth that its purely inflammatory nature was certain only after microscopic study.

Summary.

1. The appendiceal tumor of greatest size is the cyst.

2. Benign tumors are very rare. Carcinoma is not infrequent but is either of low grade malignancy or is removed early so that the prognosis is favorable. Sarcoma is rare and the outcome is unfavorable.

3. Inflammatory tumors are unusual; they must be of long standing but do not give unusual symptoms. The case reported is remarkable not only for the size of the appendix, but especially for the involvement of the wall of the cecum and for the large neighboring lymphatic glands.

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OUR LOST PRESTIGE—HOW CAN WE REGAIN IT?*

By J. M. MILLER, M. D., Wytheville, Va.

I believe the fact that the medical profession has lost prestige during the past several years, that we do not occupy the exalted position in the esteem and regard of the public which we formerly did, is readily apparent to all of us who have given the subject any serious thought. We may differ, though, as to what has brought about this change, as well as to the means to be employed by which we may regain what we have lost.

I think we can safely assume that the cause must be sought, either because of some change that has taken place in the profession itself, or in the public so as to affect its attitude towards us, or, possibly, in both. Let us consider the medical profession first. Have we changed in any way, that would lower us in the estimation of the people? Have we retrograded? Certainly, so far as medical qualifications are concerned, we, of today, ought not only to compare favorably with, but should surpass our predecessors, as our opportunities have been far greater than theirs. There is one point though, at which we have fallen down, and continue to fall, and that is

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in the production of all-round general practitioners, the bulwark of our profession. The medical profession can rise no higher in the esteem of the public than does the general practitioner, since it is he who is thrown into close, intimate contact with it, and from whom it will form its opinion of the profession as a whole. He, if the right kind of a man, shares the joys and sorrows of his clientele, is their trusted counsellor in times of stress and trouble, and is one in whom they may safely place the most implicit confidence. Today, however, deceived by a superficial survey of our profession, he misinterprets the true meaning of service and success, and too often sacrifices himself upon the altar of specialization. Many good general practitioners deteriorate into poor specialists. I do not wish, however, to be misunderstood at this point. I have no quarrel whatsoever with the specialists; we need them; but whether or not we need them in the ever-increasing numbers in which they continue to appear, is quite another question.

So much for the change or changes in the profession itself. What of those in the public? Probably there are several of these; but we will consider only two, and one of these is but an outgrowth, a result, of the other. First, we have ceased to be a nation of conservatives, and have become a nation of so-called progressives. We like to be called, and considered, a progressive nation. This is greatly to be desired if we are progressive in the true and literal meaning of this term. There is all to be commended, and nothing to be condemned, in the true progressive. Unfortunately, though, the word progressive has acquired in recent years a meaning quite foreign to its literal interpretation, and is today almost synonymous with the word radical, and all which that implies. The spirit of radicalism is by no means confined to the political world, where it probably originated, but has invaded all walks and avocations of life. It has even entered the sacred calling of the ministry, in which the quarrel between the modernist and the fundamentalist is nothing more nor less than a quarrel between the radical and the conservative. But what has all this to do with the attitude of the public towards us? Simply this. While the medical profession is, and for the most part always has been truly progressive, the public does not know this, but regards us as ultra-conservative, and the cults as truly progressive. The public knows very little of what we have done, and of what we are striving to do, and we have not tried in the least to enlighten it. Probably no profession has made more rapid advancement in the past fifty years than has ours, yet, the public, with the exception of a very few well-informed persons, remains in total ignorance of this fact. The public does not know that the various cults and pseudo-sciences have nothing in the way of good to offer that we cannot also offer. The public does not know that every successful practitioner of medicine is, to a certain extent, a Christian scientist, and that we made use of mental suggestion for the relief of physical ills long before Mrs. Eddy was born. Take away from Christian science the good resulting from suggestion, and you have taken away from it all that can benefit the sick. Take away from the osteopath the good resulting from massage and manipulation which we have practiced for a long, long time, and what has he left to offer for the relief of sickness? Practically nothing. What of chiropractic? I am convinced that if there is any good in this, it is only through the suggestion made. The reason chiropractors often produce such a profound impression upon their patients, or victims, whichever is the proper term, is because of the forceful manner in which suggestion is conveyed to the receptive center by reason of the painful, brutal, maladjustment of the vertebrae. This so-called treatment leaves its victims so sore, and so full of pains, that when they begin to recover from its effects, they experience so much relief that they are willing to make oath that they are recovering from the primary truble, if, indeed, they had one. Even Mr. Coue had nothing new to offer. We tried to convince our patients that they were "growing better day by day, in every way," long before we knew there was any such man as Mr. Coue. His formula possesses merit, and is to be commended in many cases where there is hope of ultimate recovery, but it is cruel, almost criminal, to have a patient repeat it day by day, who is growing worse, and who can never be any better. I have told you nothing new of the cults, nothing that you did not already know. But while we realize the truth of all

that has been stated, unfortunately, the public does not.

The second respect in which the public has changed, that affects its attitude towards us, is that we have become a nation of advertisers. We have become accustomed to rely upon advertisements, both in selling and in buying. This is so true that, even we of the medical profession if we have any thing of which we wish to dispose, except our professional services, immediately think of inserting a for sale "Ad" in some periodical. The same is true when we wish to obtain some commodity, and do not know just where to find it—we advertise. What is true of us in this respect is true of the general public also. We, though, of the medical profession, have been taught to shun even the very appearance of advertising, where our professional services are concerned. Not so, however, with our friends of the cults. To them, it is, indeed, the very breath of life. Without its life-giving and sustaining powers, they would soon perish, and be no more. They are advertised in two ways, by themselves and their friends, and by their enemies; and it is a question in my mind as to which is the more effective. By themselves and their friends, their virtues are extolled to the very skies of heaven, their so-called cures made to appear almost miraculous, while the criticism of those opposed to them is made to appear in the light of persecution. Whenever the American people become convinced that any body of men is being persecuted, they become active allies in its behalf.

So much for existing conditions. How can they be relieved? So far as the diminishing supply of general practitioners is concerned, I believe that time itself will eventually solve this problem. The law of supply and demand is inexorable, and will sooner or later compel compliance with its commands. Specialization will probably ere long reach the state of complete saturation, and will refuse longer to smile upon and welcome new arrivals. The sheer force of economic necessity will compel the tide to turn from the overflowing specialties into the field of general practice. The medical schools could do much to balance this unequal distribution of their graduates. They should impress upon their pupils, if service is to be the keynote of their lives, as it should be of all our lives, that general practice will offer them a far broader field for usefulness than will the specialties.

The measure I shall propose to counteract the effect of the changes that have taken place in the public will probably shock you. You will likely throw up your hands in holy horror, at the mere suggestion of such a thing. Doubtless the shades of our departed predecessors will arise to haunt me, because of this seeming desecration, for the measure proposed is nothing more nor less than advertising. Do not, however, condemn and sentence me without a hearing. I do not mean individual advertising. I do not mean that Dr. A. should advertise to the public, wherein he excels Dr. B. along certain lines, or perhaps all lines of treatment. Nor do I mean that Dr. C. should broadcast to the world wherein Dr. B. is much his inferior. I, perhaps, would be as much opposed to this sort of advertising as would any of you. Probably a better name for what I propose would be a campaign of education, in which the public would be informed regarding our profession. Since the public demands that we be truly progressive, why not convince it that we are, and have always been? I would suggest that a certain number of physicians be selected to prepare articles for publication in the most widely circulated magazines of the country, telling of the advancement we have made, and are making, and, also, either directly or indirectly, whichever may seem the better way, expose quackery and the cults. It is needless to say that these men should be very, very carefully selected, not only as regards their medical qualifications and ability to think clearly, but they should also possess that rare but happy faculty of expressing their thoughts in forceful, pleasing, and convincing language. If we are the custodians of the key to the physical well-being of the people of this country, if we are responsible for their physical fitness, then we should certainly inform them of our ability to serve them, and I know of no way in which the American Medical Association could better serve its members, and at the same time the public as well, than by such a campaign as has been suggested. I can see no valid objections to this plan whatsoever. It may be claimed that the cost would be so great as to make it prohibitive. I am not at all sure but that it could be made an

asset instead of a liability. These articles could be written in such a way, made so interesting and so instructive, that probably the price which they would command, would more than offset the cost of the campaign. But even should this not be the case at the present, the dividends paid in the future, not only to us in the way of increased prestige and remuneration for our services, but to the public as well, in better health and all which that implies, would be enormous. It may be claimed that such a campaign would violate our code of ethics, either in letter or in spirit. I do not think so, but suppose it should, "times change, customs change, and people change," and it is impossible for any mere man, or set of men, to devise and formulate any code that will be applicable in its entirety, to all times and all ages. Is our code any more sacred than that all but inspired document, "The Constitution of the United States?" Yet, it has been found necessary to amend this from time to time, and there is not the slightest doubt but that the same necessity will continue to arise in the future.

EPIDEMIC ENCEPHALITIS.*

By J. K. GRAY, M. D., Marion, Va.

It is an evident fact to all of us assembled here that our country and the world at large has during the past six or seven years passed through a rather strange epidemic, the nature of which has hitherto and is as yet not satisfactorily explained, but whose individual cases we have perhaps all had an opportunity to observe in some form. Doubtless, also, we have each been struck with the varied manifestations of the disease and at times felt somewhat a sense of bewilderment as to diagnosis, inadequacy as to treatment, and utter ignorance as to prognosis and sequelae.

Beginning in a remote corner of southwestern Europe in the year nineteen sixteen, the malady did not make its appearance in the states until late in nineteen eighteen, but from then on through nineteen twenty, and since, there have been hundreds of cases over a widespread area throughout this country and Europe. No doubt there have been other epidemics of like nature but we are unable accurately to determine them for lack of clinical information.

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As to prevalence and infectiousness, it appears that individual susceptibility plays the greater part since cases have been recorded in whom the mode of acquiring the infection was unknown, while, on the other hand, the greater majority have escaped who would otherwise have succumbed had it been any one of the more common contagious diseases.

While the epidemic seems to have spent its force several years ago there are still a few sporadic cases appearing, so that we must still be on the alert for their early recognition. Occurring at about the same time as the epidemics of influenza and poliomyelitis, it would appear that there was some connection between them, but investigation and records of cases have not borne out this assumption and we have not as yet discovered the predisposing factor. Neither has the inciting agent yet been isolated with absolute certainty, but much work has been done which would indicate that the symptoms are produced through the action of a filterable virus whereby the disease may with difficulty be reproduced in monkeys but more easily in rabbits. The bacteriologic and immunologic work along this line has for the most part been unsatisfactory and there is a great deal of difference of opinion as to the interpretation of the results obtained.

The changes taking place in the tissues are definite in character and fairly constant in location, consisting in a perivascular infiltration throughout the entire cerebral cortex and with the most marked involvement in the nuclei at the base of the brain where the pathologic changes are of a gross nature. As far as can be determined by the data collected, the age of the individual attacked varies within wide limits from early childhood to old age, with the most cases occurring in young adults. In the earlier stages, as in all other acute diseases, the diagnosis is more difficult, at which time, of course, general symptoms predominate, later on giving place to localizing signs. The prevailing type in this country has been the lethargic form, which gave rise to the disease at first being called sleeping sickness, which, however, is a misnomer as there is a large percentage of cases in which the opposite trend in the symptoms occurs, producing the hyperkinetic type in which the lethargic process is reversed and we have,

instead, excitement, delirium, trembling, choreic movements, and transient paralyses. In this latter type the prognosis is more grave and the mortality higher. The most constant sign that has been noted is diplopia, which may be with or without nystagmus, there being only a very small percentage of cases which do not exhibit this sign and more especially so in the earlier stages of the disease. Varying degrees of ophthalmoplegia are noted in all severe cases.

Lumbar puncture, being a safe procedure, should always be performed, and though there is no characteristic change in the cytologic content, it is a valuable aid in the differential diagnosis by the process of elimination and distinction from acute diseases in which meningism occurs with symptoms referable to the central nervous system but with no inflammatory process there present. The fluid is clear and increased in amount but there is no pronounced increase in pressure as in the more common meningeal involvements. A distinct increase in the glucose content has been maintained by some to be a constant finding, but there is still some difference of opinion on this point.

The clinical course in this disease, as before stated, varies a great deal with the individual. There are, of course, some in whom a psychosis is suspected, but true psychoses are rare. Acute psychoses arising at the height of the process are of toxic origin and offer a good prognosis. The danger of accident or suicide is, of course, present, and the proper precautions should always be taken to prevent such.

The gravest contingencies that arise and the most frequent causes of death are lobar pneumonia and respiratory paralysis due to involvement of the bulb. In a few cases of the hyperkinetic type also there may ensue repeated convulsions, causing death. Excepting the so-called abortive cases, the acute course is apt to be prolonged over several weeks and the symptoms of lethargy, while prominent in most cases, may be replaced by a persistent insomnia in others and in the majority of cases is present in the latter part of the illness.

In probably none of the epidemic diseases which have swept over the country in recent years have the sequelae been more varied and lasting than in epidemic encephalitis, and it is this feature which has stimulated a great deal of interest and led to the production of a large amount of literature.

The Parkinsonian syndrome appears to be a distinct entity and may be explained upon the basis of the diffuse infiltration and exudative process which takes place, thus leading to the formation of scar tissue and the attendant interference with the projection fiber system and causing a great variety of ataxias and spasticities. While true psychoses are rare, nevertheless there are mental symptoms present in practically every case at some time during the course of the disease. Following recovery from the acute stage, there is often a long period in which the patient is unstable mentally, and some of these cases are indeed so severe and protracted as to require care in a hospital for the insane.

As the epidemic has not been very severe in this part of the country, we have had very few admitted for this reason. We have at this time two cases under care which are apparently chronic sequelae of epidemic encephalitis. In one case the symptoms resembling chorea developed following an acute attack of the disease while in France, and since that time has shown no improvement but only temporary periods in which there is an amelioration of the symptoms. The patient, although ambulant, is in a constant state of motion, which is of the varied, poorly co-ordinated and purposeless character seen in true chorea. The speech, locomotion, station, expression and general behavior are characterized by tics and purposeless jerky movements. He has also experienced several generalized convulsions, but none have occurred lately. The patient is totally incapacitated physically and, although not actually insane, is in a continued state of mild agitation and lacks the power of concentrating his thoughts on any particular subject for any length of time.

Another case now under observation passed through the acute stage some nine months ago and has since that time been in a continuous state of weakness so pronounced that he is hardly able to walk around, not because of actual muscular asthenia, but more so from the total lack of nervous energy. He is in a good state of nutrition and has no organic or neurological defects, but suffers from a per-

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sistent insomnia and a neurasthenia major which entirely incapacitates him.

Still another case of encephalitis residue, which was negative by the Wassermann reaction, presented most of the symptoms of syphilis of the central nerve system. The history was of a previous attack of encephalitis several months before entering the hospital where the whole course of his progress was downward, death following after a series of convulsions.

We have been handicapped in not being able to observe the above-mentioned cases in the acute stage, but the residual effects, as observed in a state hospital, have been as striking as they have been varied.

In conclusion, we may state that encephalitis, whether of lethargic or other type, is a disease of which a great deal is yet to be learned and concerning which the prognosis should be well guarded. Whether patients attacked by it ever recover entirely is a doubtful question, and it would probably be safer to regard each case as being one of a chronic disease with an acute onset and early course, later developing into a subacute and, finally, into a chronic phase.

THE CORRECTION OF NASAL DEFORMITIES BY THE EXTERNAL ROUTE.*

By ELBYRNE G. GILL, M. D., F. A. C. S., Roanoke, Va.

It is my purpose in this paper to describe an operative process which gives relief for the hump, deflected nose, and depression of the nasal bridge and columella. The technique which I describe is one that has been devised by Gillies, of London, and elaborated upon by Dr. J. Eastman Sheehan, of New York.

We will first discuss the cases in which there is a depression of the nasal bridge and columella.

Supporting Structures. Various substances have been devised and used to build up the missing parts, such as paraffin, gutta percha and other foreign substances, but recognized plastic surgeons have given up their use. Chondral cartilage is best suited for this particular work. The cartilage is secured from the costal cartilage of the eighth or ninth ribs. The cartilage can be easily shapened to any desired pattern and has the power to combat infection. When it takes, it remains as transplanted and is not absorbed. This has been proven by the experimental work of Staige

*Read at the meeting of the Southwestern Virginia Medical Society, at Mountain Lake, August 27 and 28, 1925.

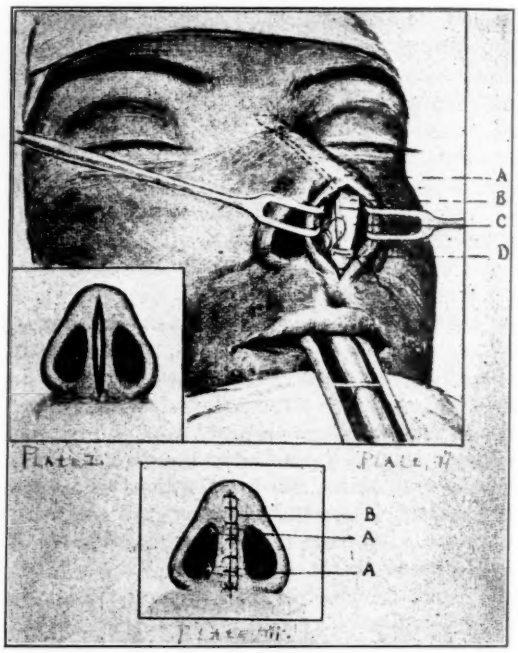

PLATE I, II, AND III.

Columella incision, exposing the cartilage of the septum.
A. The long leg of the graft.
B. Perichondrium intact for the purpose of holding the long and short legs of the graft together.
C. Short leg of graft to support the columella.
D. Perichondrium intact with a small Lane intestinal needle passing through the loose tissue of the philtrum and perichondrium, for the purpose of securely anchoring the short leg of the graft to the deep area of the upper part of the philtrum.
A and A. Mattress sutures.
B. Continuous lock stitch of horse hair.

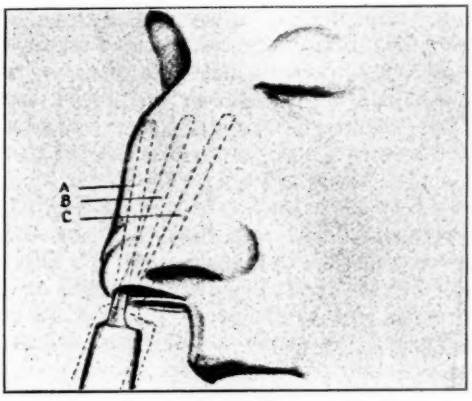

PLATE IV.

A, B and C. Showing method of freeing tissue of nose in case of hump.

Davis, of Baltimore, and also by the work of Killner and Gillies, of Britain.

It is always desirable to remove more cartilage than is needed. This is done to insure ample supply in case of accident or infection. The excess cartilage can be buried beneath the skin of the chest without fear of being absorbed or causing any irritation.

The above mentioned plastic surgeons have shown that foreign substances should never be used as a means of support for, as a rule, they generally act as irritants to the tissue, sooner or later giving trouble by abscess formation, gangrene, atrophy of the skin and, finally, expulsion.

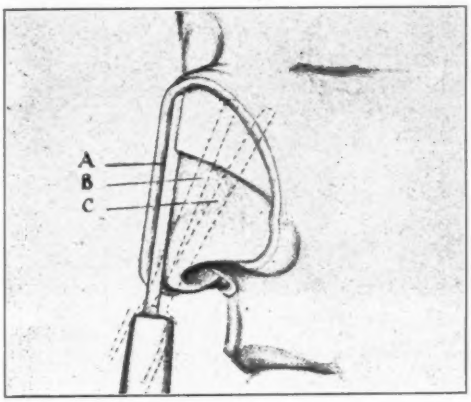

PLATE V.
A. Incising Periosteum. B. Separating mucous membrane. C. Separating periosteum.

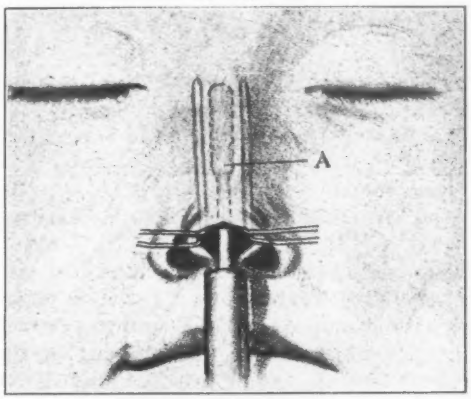

PLATE VII.
A. Polishing bone with a fine Joseph's rasp.

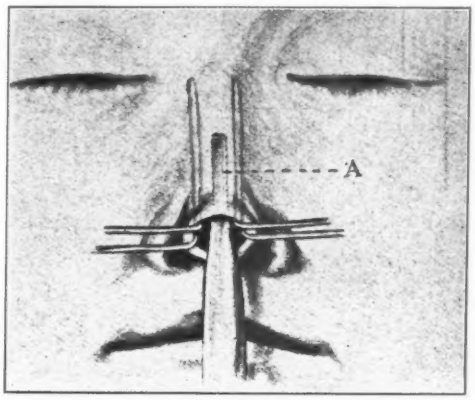

PLATE VI.
A. Chiseling of the nasal hump.

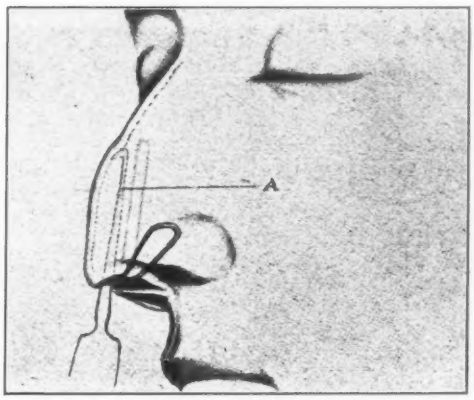

PLATE VIII.
A. Removing cartilaginous part of hump.

Anesthesia. Local anesthesia is the one of choice. We use 1 per cent novocain.

Preparation of the Patient. The entire face, lip and chin, are washed with green soap, and then followed with alcohol. The airway, on both sides, is packed with dry sterile gauze. With a small sharp scalpel a vertical incision is cleanly made through the center of the columella, extending from the under surface of the tip of the nose down to the philtrum. The incision is now deepened throughout its full length until one reaches the vertical edge of the septal cartilage. The septum on both sides is then exposed for a short distance. The loose tissue of the nose is now separated on each side of the nasal bridge up to the infra-glabella region. A bed is now made for the reception of the graft.

Preparation of the Cartilage Graft. After the cartilage has been removed from the right chest wall, it is either wrapped in dry sterile gauze or placed in saline solution. The dis-

tance from the infra-glabella region to the nasal tip is accurately measured, and then measured again from the tip of the nose to the deep tissue of the upper part of the philtrum. This gives one the exact length of the cartilage needed. The width of the cartilage required is also noted. A triangular piece of

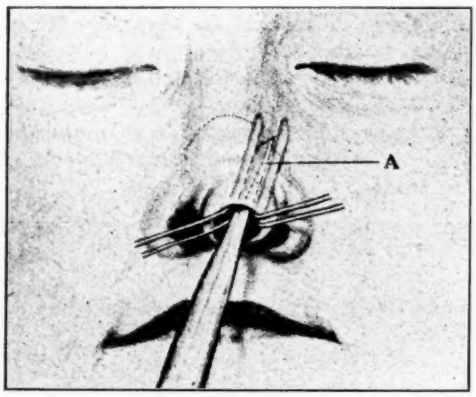

PLATE IX.
A. Using special chisel for the removal of the nasal bone or the nasal process of the maxilla.

cartilage is excised at its proximal end, for the purpose of bending to a right angle, after the graft is shapened to the desired pattern; the perichondrium over the long leg of the graft is removed, except over the angulation, the object being to hold the long and short legs of the graft together. The perichondrium is now removed over the short leg of the transplant, except at its far end. This is allowed to flare out from either side, in order to hold the short end of the angulated transplant firmly in place, by suturing it to the deep tissue of the upper part of the philtrum, thus preventing tension from the sutured columella and a later flaring out of the grafted area.

Case 1.—Before and after operation.

Patient, A. C., age 23, male, consulted me March 1, 1924 giving the following history: At the age of 10 years, while sleigh riding, had his nose broken, which resulted in a hump nose and a flattening of the nasal septum and complete occlusion of the air passages. March 16, 1925, I operated upon this patient. Anesthesia one per cent novocain. I performed a submucous resection and removal of the nasal hump, using the technique as described.

Case 2.—Profile and front view, before and after operation.

Patient, E. K., age 14 years, at the age of three years fell and broke her nose. This accident resulted in a hump nose, lateral deviation and a flattening of the nasal septum. June 16, 1925, I operated upon this patient, using local anesthesia, one per cent novocain. I first performed a submucous resection, then removed nasal hump and corrected lateral deviation.

The raw surfaces are now carefully and accurately brought together with a mattress suture, of braided silk. No bandaging is necessary, as a rule. The sutures are removed on the fourth day and there is very little, if any, scarring.

Hump and Deflected Nose. The same incision is made in the columella as the one just described, but it is not necessary in every case to extend the incision to the deep tissue of the philtrum. The loose tissue of the nose is separated as before, on each side. An incision is then made through the periosteum parallel to the nasal bridge. A septal elevator separates the periosteum from either side of the nasal bones. The bony hump can either be removed by the use of a rasp or a chisel. We have found the rasp a more desirable instrument to use. Pressure is applied on each side of the nose for forty-eight hours. The columella incision is closed by mattress sutures of braided silk.

For the correction of the deflected nasal bones, bridges, and thickness of the nasal process of the maxilla, the same initial incision is utilized, and the loose tissue of the nose and the periosteum is separated in the same manner as for the hump nose. Here, again, you can either use the chisel or the rasp. Whether one or the other method is used, it is left to the judgment of the operator.

The photographs showing the technique of this operation are taken from an article by J. Eastman Sheehan, in the *Laryngoscope*, September, 1922.

TREATMENT OF LACERATED WOUNDS OF THE EXTREMITIES.*

By A. M. SHOWALTER, M. D., F. A. C. S.,
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In selecting the above subject for discussion on this occasion, I have been prompted to do so for the reason that, in my own opinion, based upon personal experience and observation of other clinics, the majority of surgeons are, as a rule, rather too radical in their treatment of wounds of this type and tend to lose sight of the fact that a goodly majority of the results that we get in surgery of this type is dependent upon the individual resourcefulness of the patient. In other words, I think a good many unnecessary fingers and toes are amputated and, perhaps, feet, legs, arms and hands, which might be saved by a little time, patience, and careful observation in handling of the wound.

I realize, from a cosmetic standpoint, it is rather interesting to take a finger, for instance, which is badly lacerated and, perhaps, crushed in a number of places, amputate it, and leave a beautiful stump which will heal over in a short time; the end results of the operation apparently look good, as compared with a long, tedious procedure of carefully putting back in place torn fragments, dressing and tedious watching, when it may take weeks longer to heal. But in the long run, if any portion of the digit, as above-mentioned, can be saved, does it not justify our time and the expense to the patient to save the finger, toe, hand or foot if we can? I realize, when it comes to dealing with the larger parts of the extremities, my remarks will have little of importance, and it is my intention to deal chiefly with the fingers and toes.

A good many years ago, I remember reading an article by some one whose name I do not now remember, entitled, "A Plea for the Saving of Lacerated Fingers." I was so impressed by the discussion of the subject that since that time I have repeatedly patched up injured extremities and saved a number of fingers and toes which otherwise I would have amputated, had it not been for the impression this left on my mind at the time. And unless a person is given considerable opportunity to see just what so-called "nature" will do toward repairing the damage to the digit, it is hard to realize what results one may get. The types of wounds I refer to above are those in which the hand, or foot, especially fingers and toes, have come in contact with some high powered machine, and are badly torn, including also fractures generally of a compound and multiple nature. Take, for example, a hand with all of the fingers literally cut into a pulp, the skin only left in small fragments, and the phalangeal bones cut into several sections, tendons badly injured, and complete loss of function so that the fingers hang limply from the extended hand as though they were useless. By carefully approximating the torn and cut fragments, putting the hand up in extension, and forming the outline for the

*Read before the Southwestern Virginia Medical Society, at Mountain Lake, Va., August 27-28, 1925.

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digits, it is rather remarkable to watch what will occur in a great many of these cases. In the event our judgment may be wrong, and it is necessary to amputate one or more of these digits, this can easily be done under local anesthesia at a subsequent date, as I have had occasion to do several times in the past from a vocational or individual viewpoint.

Treatment

For convenience, we may divide the treatment into, first, mechanical; and, second, medical (antiseptics and antitoxin). From a mechanical standpoint, the first thing to do, of course, is as nearly as possible to approximate and anchor in place by sutures all of the torn fragments, so as to give the particular part of the digit injured the best anatomical form practicable, and follow up by careful dressings and splints, if necessary. The medical treatment should consist of local applications of antiseptics, tincture of iodine being the generally accepted antiseptic; this, however, should never be used for more than the inital treatment, to be followed by moist, warm salt water applications at intervals of twelve to twenty-four hours for periods of twenty to thirty minutes, if the injury is such as to necessitate a treatment of this kind. A prophylactic dose of tetanus antitoxin given immediately after the accident should be a routine measure in my opinion in all cases where the wound opens up any extensive field for infection. Very often the results of the treatment may not look satisfactory for several weeks following an injury, but firm dressings, even though some local infection is present, and bathing in warm salt water once or twice a day will accomplish a great deal towards restoring a badly injured digit to a more or less normal functioning activity.

In reviewing our experiences, no doubt all of us can recall many interesting experiences in which we, perhaps, have been somewhat in doubt, and certainly other members of our profession may disagree with us in the propriety of leaving on a badly lacerated finger or toe, but I have in mind one case which is of particular significance and tends to demonstrate to my mind how we may often-times be fooled in our judgment as to what may be accomplished along this line.

A few years ago I was called to see a patient some fifteen miles in the country, and, on arrival, found that a boy, seven years of age, while playing with a lawn mower, had the misfortune to get one of his thumbs, which one I do not recall now, tangled up with the lawn mower while running down hill. He recovered himself to find the end of the thumb gone, midway between the base of the thumb nail and the last phalangeal joint. After running in the house and informing his mother, a careful search was made for the missing end of the thumb, which was found in the grass out in the yard. On account of the delay in getting the message, it was two and one-half hours after the accident before I arrived on the scene. Being an only child, you may picture to yourself the loving mother's chagrin and disappointment to see her only son maimed in this way; so, with tears in her eyes, she begged me to put the injured thumb back in place and save it. Of course, I had little to offer her in the way of a favorable prognosis, but, at her earnest solicitations, and not, I am frank to say, because of my own surgical judgment, I agreed to make the attempt. I immersed the end of the thumb, carefully wrapped in sterile gauze, in warm salt water solution, keeping the container in a basin of hot water to keep it at an even temperature while I sterilized the instruments preparatory to doing the operation. To make a long story short, I carefully stitched the fragment in place, supporting it in position with sterile gauze and adhesive plaster, reinforcing this with a larger dressing, and instructed them to soak the thumb in warm salt water for twenty or thirty minutes every eight hours. For a while the end of the thumb lost its color and complexion, and it was weeks before I thought we would get any results at all, and even six or eight weeks after the accident I was practically convinced that we would save only a portion of the extremity. When the patient was taken to his home in Philadelphia and the surgeon there was called in to look after the case, he insisted on removing that part of the finger, as he deemed it impractical to leave it on. The family refused to have this done, and I regret that I can not have this patient with me today to demonstrate to you the end result of this little experience. However, describing the condition, he has a thumb on this hand which is perhaps not over one-eighth of an inch shorter than

the other; he also has a well-formed thumb-nail, with the exception of the fact the tip is somewhat tucked in, and, furthermore, he has a perfectly flexible joint.

By way of summary, I wish to state, in concluding, first, we should be careful to cleanse the wounds and give attention to the mechanical dressings of same; second, local antiseptics and antitoxin should be used. We should not remove any digit which has even a fragment of tissue left to hold it in place, no matter how badly lacerated And, finally, do not hesitate to sew back in place fingers and toes when they are entirely gone, with the assurance that you will get enough results from this line of treatment to more than justify the experience.

POTTER'S VERSION AND ITS POSSIBILITIES.*

By J. M. ROPP, M. D., Roanoke, Va.

In an obstetrical experience in connection with the general practice of medicine covering a period of more than thirty years—which has been comparatively extensive—during which time I have delivered women under practically every imaginable condition, and at the same time have come in contact with almost every conceivable obstetrical complication and emergency. I am frank to admit that the one thing that has impressed me the most profoundly, and at the same time weighed upon me the most heavily, has been the heart-rending suffering incident to child bearing and the little that has been accomplished in its relief.

Many times have I asked myself the question, why should this, the crowning and most glorious event in every mother's life be purchased at the price of such anguish, and at the same time be surrounded by such dangers and pitfalls? And why should the dread of childbirth, like a veritable sword of Damocles, hang suspended over the head of every civilized woman?

The fact that little had been done until comparatively recent times to meet the long and persistent demand of the parturient woman for relief or mitigation of her suffering was not alone due to the lack of interest on the part of the profession, or the entire absence of means to this end, but largely due to the attitude of the clergy and laity, both of which bitterly denounced and condemned every effort along this line as being in violation of the divine command, "In sorrow shalt thou bring forth," many of whom to this day believe in following literally this injunction.

This demand has increased and kept pace with the progress of civilization, and human enlightenment until at the present time practically every intelligent woman demands that something be done for her in her hour of travail. Obstetricians generally have been gradually awakened to the righteousness of her cause and the justice of her demands, and the necessity of meeting them in some way. This is clearly shown by the many procedures brought forward and advocated for this purpose from time to time.

It is not within the province of this paper to discuss or even mention the various methods or procedures, most of which have fallen far short of their aims or expectations, and have proven but "dead sea fruit" in the hands of those that used them.

The first great step forward in this direction was made when Sir James Simpson on January 9, 1847, did the first obstetrical operation on record under a general anaesthetic, using ether and doing a version and breech extraction. In November of the same year, he discovered the anaesthetic properties of chloroform, and used it to the exclusion of ether, and strongly advocated its general use. This raised a terrific storm, not only within the ranks of the profession, but both clergy and laity bitterly assailed its use. However, after Queen Victoria was delivered by Simpson in 1853 and 1857 under chloroform in two of her confinements, the storm gradually abated and its use spread rapidly, until now chloroform or ether are used in practically every confinement, attended by any one competent to use them.

No storm in the obstetrical world since that raised against the use of chloroform in labor by Simpson has ever surpassed or even approached it in its violence, unless it was the storm precipitated by Irving W. Potter, of Buffalo, N. Y., when he read his first paper on elective podalic version during September, 1915, at Indianapolis, Ind., before the American Association of Obstetricians and Gynaecologists, and advocated its use for the sole purpose of eliminating the second stage of labor.

This paper was bitterly criticized and the

*Read before the Southwestern Virginia Medical Society, at Mountain Lake, Va., August 27-28, 1925.

principle advocated considered so revolutionary and dangerous that the executive committee refused to have them published in the transactions of the society, and it was with great difficulty that the members were restrained from expelling him from the society. Many not only thought him unscientific but dishonest.

In 1916 Potter reported an additional 200 cases before the same society, but there was no apparent change in the sentiment and there was no evidence whatever that the storm of the preceding year had abated in the least. In September, 1920, at Atlantic City, Potter presented a third paper on the same subject and before the same society. In this paper he reported that during the past year he had personally delivered 1,113 women, 920 of these being done by version, with a combined natal and neonatal mortality of 6.7 per cent. This paper was discussed at length by such men as Barton Cook Hirst, McPherson, James A. Harrar, E. P. Davis, E. G. Zinke, and a number of others of equal prominence. The reception of this paper and the lengthy discussion following it was remarkable for the great change in sentiment. So great was the change that Potter, in closing the discussion, remarked that he was greatly gratified and pleased, and especially so with one member in particular, as, when he presented his first paper, he (Zinke) was so worked up that he (Potter) feared he would have a stroke of apoplexy and that he (Potter) would be hanged for his murder.

No one questioned his statements or doubted his statistics, and practically the only objections or criticisms centered around two points, viz., that, in their opinion, it was unwise or unnecessary to interfere in cases that would deliver themselves spontaneously, and many objected to the procedure on the ground that, while it might be safe in the hands of a master like Potter, it was an operation that required such a high degree of skill and training that its results would inevitably prove disastrous in the hands of the untrained and inexperienced.

This is almost precisely the stand taken by Williams who, in the fifth edition of his masterly work on obstetrics (published July, 1924), devotes almost an entire chapter to Potter and his work, and, in comparing Potter's mortality of 6.7 per cent with the mortality of the last 10,000 cases at Johns Hopkins Hospital of 7 per cent, states that the fact that Potter's patients were delivered by probably the most dextrous obstetrician in the world today would account for this low mortality in this class of cases. Williams advises against any wide acceptance of Potter's views on the ground that, while it is no doubt a safe procedure in the hands of a man possessing the extraordinary accomplishments of Potter, its results will become disastrous in the hands of the unskilled and untrained.

Since 1920 Potter has continued to deliver annually a steadily increasing number of women, and by a number of changes and improvements in his technique has so reduced his foetal mortality that for the past three years it has dropped to the amazing figures of 1.9 per cent (soon to be published). No one today at all familiar with Potter's work casts the slightest doubt on his statistics or statements, as all efforts to refute or disprove them have utterly failed to show a single thing that was inconsistent with the indisputable facts that he has presented. And many there are, who formerly denounced him as a crook and a crank, who now loudly proclaim him the greatest obstetrician of the age. One no longer sees the critical and destructive attitude towards Potter that was formerly so widely manifested, and the bitterest criticisms heard are from men utterly unfamiliar with his work.

Practically all the objections brought forward by the leading obstetricians of the country against the adoption of the method seem to center around the two points already mentioned, viz.: First, that in their opinion it is unwise to interfere in any case that would otherwise deliver herself spontaneously; in other words, they think it wrong or unwise to relieve the suffering of childbirth. Second, that on account of the fact it is an operation requiring such a high degree of skill, training and experience, it is safe only in the hands of a master like Potter himself, and in the hands of the untrained and inexperienced its results must prove disastrous.

On the first objection offered I feel that little need be said, though my own personal feelings are to the effect that if a woman in labor is travelling along with commendable celerity and apparently enjoying her experience, I most certainly would not want to rob her of one moment's pleasure by interfering; while, on

the other hand, if she is suffering greatly and wants relief, I feel that she should at least enjoy the same rights and privileges that are exercised by her huband who, when suffering from toothache, prefers to have it extracted painlessly under modern methods, rather than have it extracted under more ancient methods with no recompense in the way of additional safety for extra pains, provided, of course, that her prompt and painless labor is purchased at no additional risk to herself or unborn child.

Answering the second objection, I might say that obstetricians of wide experience all agree that it is an operation that does require a high degree of skill, training and experience, in order to meet successfully the many complications and emergencies that frequently arise, and to avoid disaster, must be met promptly and skilfully. The fact cannot be denied or questioned that skill and training are equally valuable in this as in any other delicate operation, nor can it be doubted that one's results may be measured by the amount and degree of skill that he may possess. No inexperienced obstetrician has any more if as much right to subject the life or well-being of a parturient woman or her unborn child to increased danger—the result of his inexperience in doing this operation—than has the general practitioner, with little surgical training and experience, to do many of the difficult and delicate operations that can only be done safely by surgeons who, by long training and experience, have become experts in their several lines. It must therefore be admitted that the objections on these grounds are well taken, as the disastrous results that must follow in the hands of the untrained and inexperienced must soon bring a procedure into disrepute that may otherwise prove a boon to womankind. This stand taken by leading obstetricians on this matter is but the same stand taken by surgeons generally against untrained and inexperienced men doing major surgery, and but for this firm stand taken the whole realm of surgery would have long since been brought into disrepute.

The fact that the Mayos, Crile, and others are such masters in their particular lines does not prevent or deter the progressive surgeon from acquiring sufficient skill, after studying and training under these same masters, to do any or all of the operations done by them with equally good results. Nor can I see why any competent and experienced obstetrician, who has been trained under Potter personally, should be viewed in another light. I might also ask, does the fact that Chevalier Jackson is such a master with the bronchoscope disqualify any good nose and throat man from acquiring sufficient skill after proper training to become proficient in the use of the same instrument?

Any further study of Potter's version must first of all take into consideration the immediate and remote effects on both mother and child. As regards the mother's interests, clinical experience has shown definitely that in eliminating the suffering and shock incident to a long and tedious labor or even one of moderate duration, we save the mother's strength, lacerations are extremely rare, and these things, with the infrequent examinations, are responsible for the extreme rarity of infections and other complications of the post-partum period, which is usually remarkable for its rapid and uninterrupted course. Involution is rapid and the lochial flow disappears early. Recently, John Cook Hirst made the statement that it had been his good fortune to deliver several women in their second confinements that had previously been delivered by Potter, and that he considered the pelvic condition absolutely perfect.

In studying the effects on the child, it must be remembered that Sir James Simpson, in 1853, demonstrated the fact that the after-coming head can be brought through a smaller space than the head presenting. This is a principle accepted by all obstetrical authorities. The low mortality and the rarity of brain injuries in cases delivered by this method has been rendered possible by a thorough understanding of the causes of death in breech extractions of the past, and by the substitution of deliberate skill for frantic haste in the face of erroneous fear that if the foetus was not delivered promptly it must perish from asphyxia. Potter and others have proven conclusively that the teaching of the past—that if the foetus was not delivered in from five to eight minutes from birth of umbilicus to mouth, it must inevitably perish from asphyxia—was a grave mistake, and have shown that the high mortality of breech extractions under the old methods was due to the fact that these

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babies were killed by frantic and unscientific efforts at delivery. If Potter has done no more than to disprove this erroneous teaching of the past, he still has done the greatest thing for obstetrics that has been accomplished in the past twenty years. This statement was recently made by a prominent obstetrician of New York city, who further stated that the importance of asphyxia as a cause of death in breech deliveries had been greatly exaggerated, with the resulting development of an unsound philosophy and practice which is shown by a convincing literature that finds almost no reflection in the text-books of obstetrics or in clinical teaching or practice of today.

In 1924, Pierson, of Sloan's Maternity Hospital, in an exhaustive study to determine the cause of thirty-six natal and neonatal deaths that occurred in primary breech and emergency versions, especially with reference to the relation of asphyxia to other causes of the high mortality in breech extractions, states that 56 per cent were due to traumatism alone, and combined traumatism and asphyxia was the cause of death in 39 per cent, 5 per cent only being due to asphyxia alone. Complete autopsies were done in all these cases.

He concludes that two outstanding errors of technique are responsible for this high death rate, and that both are predisposed to by the tradition of necessary haste. These errors are, first, failure to accommodate in delivery the long axis of the child to the axes of the pelvis, thus causing dangerous angulations. Second, failure to accommodate the longest diameters of the body, shoulders and head, to the longest diameters of the pelvis—thus causing the necessity of a dangerous degree of supra-pubic pressure and traction, and that frantic haste, as opposed to deliberate skill—is the real clinical error involved.

Hugo Ehrenfest, in his work on birth injuries of the new born, published in 1922, states that, in his opinion, many, if not most, tentorial tears are due to the sudden springing back, or the expansion of the head when suddenly born, after having been subjected to great pressure, as in long and tedious labors, precipitate deliveries, and many forceps cases. Recently, after having watched Potter deliver a number of women, he stated that he could now understand why there were so few cases of intra-cranial hemorrhages in the cases delivered by him, as the slow, deliberate and methodical way of delivering the after-coming head obviated this sudden expansion of tissues—long under great compression.

Holland, in his work on intra-cranial stress in labor, says (in speaking of intra-cranial pressure due to marked moulding of head as the result of long and tedious labors), "Pressure changes are of much more import than was formerly believed and it is now known that they may play an important part in the production of sub-dural hemorrhages, as it has been shown that such moulding and pressure subject the tentorium and falx to excessive tension, which may result in actual lesions associated with hemorrhage, and which will readily account for many foetal deaths that were formerly considered inexplicable." One can easily see how much, if not all this, can be avoided by Potter's method of delivering the after-coming head.

The immediate effects on the child can in all probability be better understood and appreciated by comparing Potter's mortality with that of other clinics and methods, and, in making this comparison, I shall use the statistics given by him in his paper, read at Atlantic City, 1920, giving a mortality of 6.7 per cent, which has not been questioned by any obstetrical authority. However, I cannot lose sight of the fact that Dr. Potter told me while visiting him in Buffalo that his mortality for the past three years was slightly below 2 per cent (April last). DeLee states that more than 4 per cent of all children born die in child-birth, and quotes Schultze as saying that 5 per cent are still-born and that 1.5 per cent die within a few days, the result of trauma of labor, and that a large percentage—just how large it is impossible to say—are more or less injured, and this, too, in so-called normal labors.

Holt and Babbett, after having studied the records of 10,000 deliveries at Sloan's Maternity Hospital, found that 6.82 per cent were still-born and that 2.91 per cent died within fourteen days—making a combined natal and neonatal mortality of 9.73 per cent.

In Columbia Hospital, Washington, D. C., of the last 10,535 deliveries up to 1920, there were 1,339 still-births and deaths up to the fourteenth day, making a mortality of 12.5 per cent.

In the city of Richmond, Va., there were,

for the six years from January 1, 1918, to January 1, 1924, 24,734 births reported, of which 1,647, or 6.56 per cent were still-born, and 1,028, or 4.02 per cent died during the first fourteen days, making a combined mortality of 10.67 per cent.

Coming home to Roanoke, we find, in 1924, there were 1,812 births reported, 106 of which were still-born, and seventy-six died within the fourteen days following delivery, making a mortality of 9.9 per cent.

In advocating elective podalic, or Potter's version for the sole purpose of eliminating the second stage of labor, it will be unnecessary to mention the many other indications for version as they are all covered by this broad indication.

In order to do versions safely and successfully, aside from a thorough knowledge of the technique, one should be thoroughly familiar with every emergency that may arise, and at the same time have the utmost confidence in his ability to meet them promptly and deliberately, as, otherwise, he may face disaster. One should always have the services of a competent anaesthetist. The cervix must be completely dilated; this is extremely important, as it is in the presence of incomplete dilatation that we often encounter our most difficult complications. This, however, does not mean that the dilatation must have been completed by natural means before beginning the version, but it is imperative that the cervix be obliterated, soft and dilatable, in which case the cervix may be dilated gently by the advancing hand. The membranes should be intact or only recently ruptured. The uterus must not be in a state of tetanic contraction, and the head must not be too firmly engaged. The disproportion, if any, should not be too great, as in that case a Cesarean section would be indicated.

Briefly describing the technique: The woman is scrubbed and shaved as for any gynaecological or obstetrical operation, and anaesthetized to the full surgical degree, then placed on the operating table or across the bed in a modified Walcher position. This position is important, as DeLee and others have shown that this position, by tilting the pelvis, increases the diagonal conjugate diameter from one to one and one-half c.m. The legs are held by assistants as closely together as possible and the knees slightly higher than the level of the body. It has been shown that this position relaxes the perineal fascia. The bladder is now catheterized; this is important, as many women void and yet retain several ounces of urine. This not only gives more room, but prevents the bladder from being dragged from its attachments, a thing that not infrequently happens even in normal labors with distended or half empty bladder.

The operator, after having donned full-length obstetrical gloves, begins to iron out the vagina and perineum; this is a very important part of the technique, and is equally as important in the multipara as it is with the primipara. To do this properly should take from six to ten minutes. It requires considerable experience to do this satisfactorily, as each perineum is an individual problem in itself, and no two can be properly prepared by the same amount of pressure or in the same length of time. It is begun by introducing the index and middle finger in the vagina. At this point the vagina is flushed with tincture of green soap. The two fingers are now swept from side to side and then up and down over the perineum and vagina; the third and fourth fingers are then introduced and the same movements repeated as each successive finger is introduced, until finally the whole hand is introduced.

This having been completed, the hand is now gently and slowly passed into the uterine cavity. After determining definitely the position of the foetus by finding the ear, the head is now displaced to one side, and the membranes separated from the interior of the uterus by gently sweeping the hand, avoiding the placenta.

The membranes are now ruptured high up, the hands are folded across the chest, and the feet are sought and grasped in such a manner that they are astride the middle finger, the index and ring finger being external to the ankles. The feet are now slowly and gently drawn down until the knees appear at the vulva, when the version is complete. The feet are now wrapped in a dry towel and gentle traction continued in the same direction. As soon as the hips appear at the vulva, one should note whether or not the back of the child is inclined to rotate forward; if not, traction on the lower, or posterior, foot should be made, which usually results in bringing the back

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forward. The cord should now be looked for and, if found between the legs, should be drawn down and slipped over one leg so it will not interfere with delivery.

As soon as the hips are born, one should pause for a short time, after which a second dry towel is wrapped around them, and slow, gentle and continuous traction continued until the scapulae are visible. A third dry towel is wrapped around the chest, and the foetus grasped around the chest with both hands and gently rotated from side to side in order to determine which shoulder will rotate most easily under the pubic arch. After the shoulder is rotated well up under the pubic arch, it is delivered by pressing the scapula with the index and middle finger firmly, but gently, up under the pubic arch, when the arm is usually delivered without even the operator's hands touching it. The posterior shoulder is now rotated and delivered in the same manner.

After the shoulders are delivered the operator should determine whether or not the cord is around the neck, in which event it must be loosened or, if this is impossible, it should be cut and clamped.

After a short pause, he is ready to proceed with the delivery of the after-coming head. Two fingers of the left hand are introduced into the vagina, and one or both in the baby's mouth in order to maintain flexion, the baby lying across the operator's arm. The head is now grasped above and behind the pubes with the right hand and firm pressure over the occiput is made in order to aid flexion and guide the head through the pelvis. No traction on the lower jaw is ever permissible on account of the danger of fracture.

As soon as the mouth is exposed, all efforts at delivery are stopped and the mucus is milked out of the baby's mouth and throat by gently stroking the front of the neck, when the baby usually begins to breathe and frequently to cry.

In the event the perineum is apparently in danger, it is well at this point to wait for a short time in order that it may relax or dilate more completely, as there is no reason for haste. This frequently saves a perineum that might otherwise be traumatized. The head is now slowly and carefully delivered.

The baby, after being born, is laid across the mother's abdomen and usually soon begins to breathe spontaneously. It is never advisable to spank the baby or use any rough manipulations. In the event breathing is unusually delayed, a small catheter is passed into the larynx and the lungs inflated; this is, however, rarely necessary. Pituitrin is usually administered immediately after the baby is born, after which the placenta is usually expelled spontaneously.

If any great difficulty is encountered in the delivery of the after-coming head, the delivery may be completed by forceps; this is, however, extremely rare. In this event, the forceps recently devised by Piper, of Philadelphia, for this particular class of cases, will be found to be of great assistance, as it is extremely difficult to apply ordinary forceps to the after-coming head without endangering the life of the child or the integrity of the perineum.

It must be remembered that all these manipulations must be carried out with the utmost gentleness and deliberation. One should never hurry, and, above all things, one should never allow his fears or anxiety in the presence of an emergency—no matter how grave—to induce him to expedite delivery to the point where he may awake too late to the fact that he is substituting frantic haste for deliberate skill; and thereby courting disaster.

I feel that the following conclusions, which have been arrived at after as careful and as thorough study of the subject as was possible for me to make during the past five years, are fair and conservative:

First, That in skilled and trained hands, it is a safer method of delivery for both mother and child than any other method with which I am at all familiar.

Second, That the women delivered by this method have less shock, less traumatism to the birth canal, less infections and other complications of the post-partum period, and that they convalesce more rapidly and satisfactorily than with any other method of delivery, not excluding so-called normal labors.

Third, That it practically eliminates the use of forceps, both high and low, as well as the traumatism to both mother and child that so frequently accompanies their use.

Fourth, That intra-cranial hemorrhages and other birth injuries are less than in normal labors.

Fifth, That it saves life and it saves suffering.

Now, in conclusion, may I not ask, if these things be true, why should not this boon to womankind be taken to her bedside in her time of travail, that her hour may be shortened, her anguish lessened, and her joy be made complete.

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MacBain Building.

ETHYLENE ANAESTHESIA.*

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In the *Journal of the American Medical Association* for March 17, 1923, there appeared an article by A. B. Luckhardt and J. B. Carter, of the University of Chicago, advocating the use of ethylene as a general anaesthetic. On May 19, 1923, the same journal carried an article giving the experience of surgeons at the Presbyterian Hospital in Chicago, who had used the gas in one hundred and six (106) cases.

In the issue of *Surgery, Gynecology and Obstetrics* for June, 1925, Dr. W. J. Mayo, in reviewing the notable advances in surgery for the past twenty years, lists the introduction of ethylene, as an anaesthetic, as one of these—a rather remarkable record for two years and three months. Since the publication of the original article, reports from clinics all over the country have appeared endorsing its use.

The chief advantages of ethylene over nitrous oxide or ether are:

1. The ease and rapidity of induction of anaesthesia.

2. The corresponding rapidity with which patients return to consciousness.

3. The absence of cyanosis.

4. Muscular relaxation much greater than with nitrous oxide.

5. Post-operative nausea slight or absent.

6. In the poor surgical risk, and especially where the complication is cardiac or pulmonary in nature, it is relatively safer.

7. The gas does not form a chemical combination with the hemoglobin, but is in solution in the blood plasma.

The disadvantages are:

1. Ethylene and air in the proportions of four parts ethylene to ninety-six parts air form an explosive mixture.

2. The capillary oozing seems to be somewhat increased. This increase of oozing has been observed, at least by us, only in the subcutaneous area and has never given rise to any trouble.

The danger of explosion was emphasized in the second paper quoted above, and contra-indicates the use of this gas in presence of an open flame, the cautery, or an electric spark. The widespread and increasing adoption of this gas as an anaesthetic is the best proof that ordinary intelligent care is all that is necessary to prevent an explosion.

The relaxation of abdominal muscles under ethylene is greater than that obtained by the use of nitrous oxide, but considerably less than with the use of ether.

When necessary, however, ether in any desired amount can be added. Any of the gas machines on the market may be used.

Our own experience with ethylene began on March 6, 1924, since which time we have used it in four hundred and fifty-six (456) cases up to August 15th, of this year.

Gynecological:	
Major	21
Minor	107
Appendectomy	75
Incision and drainage	81
Resection of intestine or stomach	7
Gall-bladder	11
Supra-pubic prostatectomy and cystotomy	8
Thyroidectomy	5
Breast amputation	11
Amputation of extremities	18
Mastoid	3
Reduction of fracture	21
Removal of foreign body	12
Hernia	12
Nephrectomy	4
Orthopedic	17
Minor (general)	36
Cesarean section	7

As will be seen by the above list, the variety of operative procedures is fairly wide, ranging from gastric resection and radical breast amputation on the one hand, to drainage of an abscess or a "D & C" on the other.

It has happened that we have had a number of tubercular patients, who, besides having pulmonary involvement, had developed an acute surgical condition—appendicitis most commonly. With these people, the choice of an anaesthetic is of vital importance, and we

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have found that ethylene is most satisfactory, giving requisite muscular relaxation, and causing no lung irritation.

Summary.—Ethylene will not take the place of ether, and where the cautery is to be used, nitrous oxide is indicated, but it has won for itself a definite and fairly wide field of usefulness.

THE PLACE OF PITUITRIN IN OBSTETRICS.*

By M. PIERCE RUCKER, M. D., Richmond, Va.

In 1895 Oliver and Schafer[1] discovered that extracts of the pituitary body caused a rise in blood pressure when injected intravenously. They described the action as being very similar to that of the extract of the suprarenals. Howell[2] in 1898 found that the pressor substance was found only in the infundibular portion of the pituitary body. He showed that it markedly slowed the heart instead of accelerating it as Oliver and Schafer had thought. Dale[3] in 1906 showed that the infundibular extract had a great effect on the uterine muscle. In 1909 Blair Bell[4] came to the same conclusion independently and introduced its use into obstetrics. He recommended its use to promote labor pains and in post-partum hemorrhage, retention of urine, and preparatory to a Cesarean section. It is interesting to note what is probably the first description of its action upon the human uterus. He says a single injection caused the uterus immediately to contract into a blanched ball which relaxed subsequently to a moderate degree. Two years later Hofbauer,[5] Stern,[6] Boudy[7] and others[8] introduced its use into German obstetrics. Hofbauer was apparently the first to maintain that the drug stimulated and strengthened normal uterine contractions. Pituitary extract quickly gained widespread popularity among physicians and even among midwives. This can be readily understood, when it is recalled that it produces results with such startling rapidity. Pharmaceutical houses and packing houses vied with each other in producing first a potent preparation, and then a uniform product. Little effort was made to determine its action upon the human uterus. As a result, many erroneous and conflicting statements have appeared in the literature. It is commonly stated that it will not produce an abortion or start labor, and yet Watson[9] and others[10, 23] use it constantly for that purpose. It is proclaimed that it strengthens normal uterine contractions, and yet nothing could be further from the truth[11]. I am proud to say that Americans were the first to recognize the dangers of the drug. At the meeting of the American Gynecological Society[12] in 1913, a distinct note of warning was sounded, especially by Cragin, Polak and Shuddiford. The next year our own Dr. John Winn[13] at the meeting of the Medical Society of Virginia said he saw no need of pituitrin if one knew how to use forceps. In 1916 and again in 1917 Mundell[14] made exhaustive studies of the reported catastrophies that had followed the use of pituitary extract in obstetrics.

The two outsanding characteristics of pituitary extract are (1) its effect upon blood pressure and (2) its effect upon uterine muscle. These two actions are so constant that they are utilized in the two methods of testing the preparations that are put on the market. The obstetrician must take into account both actions. Along with the rise in blood pressure there is a depression of the heart itself. This is thought to be due to the direct action of the drug on the heart muscle. Constriction of the coronary arteries may also play a part.

It is the action of pituitary extract upon uterine muscle that gave this substance such tremendous vogue in obstetrics. I desire to direct your attention to two features of this action: First, the variability of response. It is a well-known clinical fact that some uteri show little if any response to ordinary or even large doses. Other uteri give a tremendous response to very small doses. No reason has been suggested for such variation, and, what is more important, there is no way of telling beforehand what sort of response you are going to get in any particular case. Not only do uteri differ in their sensitiveness to this drug, but the same uterus varies according to its functional state. The uterus reacts more promptly and more energetically the nearer the pregnancy is to term. Two minims of pituitrin will give a quicker and more energetic action in the first stage of labor than two and a half times that amount when labor is induced prematurely. In the former case a definite response begins within two minutes whereas in

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the latter it takes from five to eight minutes before any effect is seen. After labor is completed the uterus quickly loses this heightened sensitiveness to pituitary extract. I have some external hysterograms, made according to Rubsamen's[15] method, that were made immediately after the expulsion of the after-birth. These show a lapse of six minutes from the time of injection of 1 c.c. of pituitrin to the beginning of any pituitary effect.

The second point to which I wish to call your attention is the character of the response. Even the smallest doses cause a series of contractions without any pause between them. The result is an increase in intrauterine pressure. This effect can be demonstrated and measured even when clinically there is no apparent action. I[16] have internal hysterograms that show such an incomplete tetanus, lasting twenty minutes and yet the patient dosed off to sleep after the hypodermic was given. When the dose is large enough to give any clinical effect, there is a great increase in the intrauterine pressure and the effect lasts much longer.

To summarize, the action of pituitary extract on the circulatory system is to increase the blood pressure by constricting the smaller arteries and at the same time to depress the heart by direct action on the cardiac muscle. Its action upon the uterus is to elicit an incomplete tetanus even in the smallest doses. Moreover, there is great variation in response of different uteri that cannot be foreseen.

Before considering to what practical use pituitary extract could be put, let us for a moment discuss the physiology of the fetus. The fetus semi-floats in amniotic fluid. It is protected from loss of heat. Fetal movements are slight. Respiratory movements do not occur. There is no digestion. Development and growth are the chief functions of the fetus. Food radicles and oxygen are supplied in assimilable form by the mother by way of the placenta and C O_2, and the end-products of metabolism are gotten rid of by the same route. The details of this transference, so far as they are known, are well described in a recent critical review by Strachan.[17] There is some evidence that the placenta, especially in the earlier months of pregnancy, may also assume some of the functions of the internal organs of the fetus, such as the liver, until those organs develop sufficiently to take over their own duties. Hofbauer[18] describes certain reticulum cells that are found in young human placentae. These cells increase in numbers and persist in older placentae in the presence of acute and chronic infections. This he believes to be a part of the defensive mechanism of the fetus. Be that as it may, the placenta in the latter months of pregnancy is to all intents and purposes a vast permeable membrane some seventy square feet[19] in extent that separates the fetal from the maternal blood. The interchange of dializable substances is so complete, as the work of Slemmons[20] has shown, that the contents of the two bloods are the same. On the maternal side of this membrane the blood circulates sluggishly in venous sinuses which empty and fill with the contraction of the uterus. The contraction and relaxation, especially the relaxation, is very necessary to maintain the circulation of maternal blood in the uterine sinuses and, therefore, to the proper oxygenation of the fetal blood.

In trying to determine the proper place of pituitary extract in obstetrics, one must consider not only the mother but also the baby. Sometimes, I think undue emphasis has been laid on the maternal catastrophies that have followed its use. While more cases of ruptured uteri and maternal deaths[21] have been reported in connection with pituitrin in the brief period of fifteen years than have been reported in connection with ergot[22] in the first forty years it was used antepartumly, these are the unfortunate exceptions rather than the rule. On the other hand, every time that pituitary extract is given antepartumly, there is a serious interference with the placental circulation, and, unless delivery takes place within a few minutes, the fetus suffers. This is the explanation of the increased number of still-births that follow its use. DeLee, in discussing Sharpe's paper at the last meeting of the American Medical Association, made the statement that his pathologist could tell, when doing an autopsy, if the mother had been given pituitrin, simply by looking at the fetal brain.

In the light of the action of pituitary extract and the physiology of the placenta, it would seem unwise to use this substance before the birth of the baby except in Cesarean section when about to make the uterine incision. Here it is a distinct advantage, lessening the

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hemorrhage and contracting the uterus so as to make suturing it easier. If the sutures are placed in a contracted uterus they are not so apt to tear out as when placed in a flabby organ that afterwards contracts. In antepartum hemorrhage, when there is a placenta praevia or when the placenta is situated in the body of the uterus, Burgess[24] strongly recommends a gauze pack in the cervix and vagina, and small doses of pituitrin. The prognosis for the child is bad in such cases regardless of how they are handled, and the chief thing to be feared in such practice is a ruptured uterus at the placental site.

The use of pituitary extract in the third stage is a debatable one. Ryder[25], Brodehead and Langrock[26], Hefferman[27], Potter[28], and Pomeroy[29], find that it lessens bleeding and shortens the placental stage. On the other hand, hour-glass contractions, with great delay in the delivery of the placenta, have been reported. After delivery, it has been used to stop postpartum hemorrhage. It should be remembered that it takes longer to act at this time than it does antepartumly and too great reliance should not be put in it for that reason. The effect is somewhat transitory, and it is usually recommended to bolster its action with ergot. There is another way of prolonging its action that I have never seen mentioned, and that is to give it continously in a hypodermoclysis. The effect is almost as prompt, just as strong and lasts for several hours. This is the principal use I make of pituitrin. When a patient flows too much to be normal and yet not enough to justify packing the uterus, I give 1 c.c. of pituitrin in 200 c.c. saline under the breast by the drop method.

Finally, I wish to call your attention to the happy effect on the bladder in what might be called postpartum cystic inertia, and in those fortunately rare obstetric complications—ileus and acute dilatation of the stomach. While it will replace neither the catheter, the rectal tube, nor the stomach tube, it is often of decided benefit.

In conclusion, I trust I have indicated in a general sort of way the uses and dangers of pituitary extract. Recognition of the dangers is becoming general[30, 31, 32, 33]. In many respects obstetrics is like playing a game of golf. Each player must choose his own clubs, being guided in his choice by the lie of the ball and his own skill or limitations. I would liken pituitary extract to the niblick. It is not a club to use when everything is going well, but only when you get into difficulties. Even then its use is limited, and unless it is used with discretion and skill, you will play havoc with your score, and very often destroy the little ball.

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THE MANAGEMENT OF LABOR.*

By HOWARD F. KANE, A. B., M. D., F. A. C. S., Washington, D. C.
Associate Professor of Obstetrics, George Washington University.

The subject of this paper may seem to be of too elementary a nature to be worthy of the consideration of this Society. Sometimes, however, it is well to look into procedures which we have become accustomed to regard as more or less stereotyped and to endeavor to find means of improving them.

The obstetrician is often told by workers in other branches of the profession that, while in all other departments of medicine amazing progress has been made, the mortality and morbidity in obstetrics are no less now than they have been for centuries past. While this statement is not entirely correct, there is much truth in it, and for a reason. Surgery is done by surgeons, opththalmology is in the hands of men who have made special study of the eye, and work in nearly every other branch of medicine is carried on by persons trained to do the particular things they undertake. Who does most of the obstetrics?

A man who needs to have his gall-bladder removed will be careful to have a trained surgeon called to operate. If he has tonsillitis, he demands the services of a specialist. If his wife is to have a baby, he thinks that anyone with a license to practice medicine is entirely competent to attend her. Many women, through ignorance or poverty, are denied the care of any physician and must depend on untrained women. Failure to realize the gravity of child-bearing is not confined to the laity. Many physicians, poorly trained, attempt versions, forceps deliveries, and even the most serious and still most commonly resorted-to procedure of manual removal of the placenta. Few of these men would open an abdomen, but if a man is clean, he can enter the peritoneal cavity and remove an appendix with infinitely less danger to the patient than he can invade a recently pregnant uterus and remove the secundines.

Most obstetrics is done by the general practitioner, and rightly so. It is he who should attend the cases of pregnancy which occur among his patients, while the services of the obstetrician should, for the most part, be reserved for those occasions where special knowledge and skill are needed.

The type of man who will attempt operations which are beyond his powers is slowly disappearing, but there is still too little realization of the possibilities in regard to the safety, comfort and future health of the woman who goes through a so-called normal labor.

The work done in recent years on the subject of surgical shock has shown that this condition, so important that it may swing the balance from life to death, is greatly increased by traumatism, hemorrhage, pain, fatigue, and fear. In operative work, we all attempt to eliminate these factors, and surgery has been made safer and less uncomfortable for the patients. In obstetrics, little thought has been given to the prevention of shock, although obstetrical shock is no less a fact than is surgical shock. It is even more important to

*Read at a meeting of the Hippocrates-Galen Medical Society, March 13, 1924.

prevent shock in labor than at an operation. In the latter, the patient merely has to get well; after labor, she must not only recover, but she must do it so surely and so quickly that she will be able to sustain the life of her baby by providing nourishment for it.

In the first stage of a normal labor, trauma and hemorrhage are not encountered; pain, fatigue, and fear are usually marked.

The time to begin to combat fear is at the first visit of the patient. She should see her physician frequently during pregnancy, not only for the necessary examinations, but that she may feel she is being cared for and that he may gain her complete confidence. During labor the doctor should see his patient often. During the second stage, at least, he should be in or near the delivery room, and she should know it. Much of the screaming by women in labor is due to fear rather than to pain. Everyone has seen a patient become quiet and "use her pains" as soon as the doctor arrives, though she has been screaming and tossing wildly about when she thought that he was not at hand in case of need. Patients are seldom unmanageable if they are properly trained during pregnancy.

Pain and fatigue, during the first stage, can be much lessened by the use of hypnotics. Practically every sedative drug has been used for this purpose, and there are several which seem to have good effects. The drug par excellence is morphine. It not only gives the greatest relief from pain, but has a marked softening effect on the cervix. Even though the pains become less severe and the contractions less frequent, though the patient may go to sleep for an hour, the labor is shortened through the more rapid dilatation of the softened cervix and by the renewed strength of the contractions in a patient refreshed by even a short sleep. The use of a 50 per cent solution of magnesium sulphate in conjunction with the morphine, as advised by Gwathmey, increases and lengthens the hypnotic action without adding toxicity.

Ill effects on the fetus have been feared in the use of morphine. At Rotunda Hospital, Dublin, where massive doses of the drug are given in the treatment of eclampsia, no harmful effect on the child has been noted. When "Twilight sleep" was being studied at nearly all the clinics of this country, the warning was that morphine should not be given within three hours of the expected time of delivery. It was said that that length of time must elapse before the fetus could eliminate the drug in utero, and that a baby born while still affected by morphine would be slow in responding to respiratory stimuli.

Many times has the lessening of pain and the increase in the power of uterine contractions caused the writer to misjudge the time of delivery, and never has a child seemed to be suffering from morphinism, though born within an hour after administration of the drug. Sometimes babies born after the use of morphine have needed gentle resuscitation, but the respiratory delay could usually be traced to toxemia or anaesthesia.

Morphine lessens fatigue in the first stage by allowing the patient to rest between pains. Even though the pains are not entirely stopped, the patient usually dozes or perhaps falls into a deep sleep between contractions.

Pain, fatigue and fear are lessened in the second stage by the use of an anaesthetic with each pain. For administration over a longer period of time, gases such as ethylene and nitrous oxide, are to be preferred. Ether gives excellent results if not employed for more than an hour. If given for a longer period the child may suffer from its effects. The analgesia secured by giving gas or ether with each pain enables the patient to use her voluntary expulsive muscles to the limit. At the crisis of the contraction she does not "hold back" because there is no pain. This extra exertion on the part of the mother probably shortens the second stage considerably. By inducing anaesthesia at the end of the second stage, the patient can be spared the excruciating pain which attends the birth of the head.

Besides adding to the pain, fatigue, and fear, an unduly long second stage may result in injury to the child. Hours of compression of the head due to resistance encountered in the pelvis may result in future mental impairment. Stein, after studying the histories of adult imbeciles and other mental defectives, found that the majority were born after long, hard, but so-called normal labors. Very few gave the history of having been delivered by forceps. Englekens, of Amsterdam, and others have reached a similar conclusion. It is not possible to fix a definite length of time,

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but if, after two, or at most three hours, the head fails to make progress through the pelvis, forceps, properly applied, following manual rotation if the occiput is posterior, will best conserve the interests of mother and child. This does not mean that the head should be pulled hurriedly through the pelvis. Sudden compression is followed by rapid expansion of the cranial bones, with frequent tearing of the tentorium cerebelli, followed by intracranial hemorrhage. Holland, in a large number of autopsies on still-born babies and those who died shortly after birth, found intracranial hemorrhage in 51 per cent. Of the dead babies delivered as breeches, 88 per cent showed lacerations of the tentorium.

Pituitrin, by forcing the head rapidly past the resisting forces of the pelvis, causes this quick compression and expansion. This is an important but seldom considered addition to the number of reasons for believing that pituitrin is absolutely contraindicated in the second stage of labor.

Formerly the writer expended much effort in trying to prevent lacerations of the perineum. Frequently, his efforts were rewarded by the finding of an apparently intact outlet after the delivery of even an over-sized child. At that time he was not so insistent on follow-up examinations, and many of his patients were not seen after their discharge. Some, however, presented themselves for care during subsequent pregnancies. Examination regularly revealed a slightly relaxed outlet with perhaps a small rectocele. Almost always a small cystocele was found. The cause of this condition was an overstretching or subcutaneous laceration of pelvic structures.

Unless the child's head is very small and the perineum is unusually dilatable, it is almost impossible to accomplish the delivery of a primipara without damage to the pelvic floor. Probably a small laceration, properly repaired, does less damage than the delivery of a child "without a tear." The laceration will be uneven and may extend far up into the vagina, so the operation of episiotomy was devised. This may consist of the incision on either or both sides of the perineum or downward in the midline. The last named method, properly called perineotomy, seems to be the best, for several reasons. It separates the perineal tissues in the median raphe instead of cutting muscles. It is easier to repair at a secondary operation should one become necessary. The oblique incision, when healed, sometimes causes distortion of the outlet by contraction of the scar.

Three sutures of 20-day chromic cat-gut No. 2 will close the usual perineotomy. Many operators fear absorbable sutures in the perineum and use silk-worm gut or a similar suture. These are often difficult to remove, as well as painful to the patient. They form excellent paths for infection. Chromic cat-gut, if not buried, will be so affected by perspiration, lochia, and urine that it will be absorbed before healing has progressed sufficiently and the wound will break down. Therefore, it is important that all chromic sutures should be inserted just beneath the skin and emerge under the vaginal mucosa so that they will be completely buried.

Examination after two months will in almost every case reveal a perineum which on inspection and palpation can scarcely be distinguished from a nulliparous outlet. Cystocele is rare after perineotomy. Subsequent labors necessitate other perineotomies, but the results seem to be as good after second and third operations as after the first.

In the third stage, the factors which produce shock are trauma and hemorrhage. Vigorous kneading and squeezing of the uterus can cause much bruising of the uterine muscles. This is usually unnecessary and only subjects the patient to useless trauma. Pituitrin given as soon as the child is born shortens the third stage, causes firmer contractions, and thereby lessens hemorrhage. Two-thirds of post-partum hemorrhages are caused directly by mismanagement of the third stage of labor. One of the best tests for an obstetrician is his ability to control his activities until nature has separated the placenta from the uterine wall and has deposited it in the lower uterine segment or vagina.

Attention to the finer details of the management of labor results in the rapid recuperation and convalescence of the mother. This is of marked benefit to the child, as the quality and quantity of mother's milk is undoubtedly influenced by her physical and mental condition. If we are able to remove any of the dread of childbirth, we are surely helping to prevent the spread of race suicide.

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Constant and careful observation during pregnancy, with sympathetic and skillful management of labor, will produce that which is the sole aim of obstetrics—a mother undamaged by childbirth and a baby starting life unhandicapped by birth injuries.

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The Farragut.

REMARKS ON FOREIGN BODIES IN THE AIR AND FOOD PASSAGES.*

By FLETCHER D. WOODWARD, M. D., Charlottesville, Va.
From the Department of Otolaryngology, University Virginia Hospital.

Foreign bodies in the air and food passages should no longer be considered as curiosities; they occur so frequently that we might better say they are of common occurrence. Only recently, Dr. Chevalier Jackson reported a series of over 1,200 cases from his clinic alone, and in the past month we have had two such cases at the University Hospital, which I wish to report at this time.

Since the general men are the ones to see these cases first, I wish to discuss briefly the etiology, symptomatology and diagnosis, for the early recognition of this condition is of vital importance.

In regard to *etiology*, carelessness is the most frequent contributing factor, for nearly always the patient had been holding in the mouth foreign bodies which did not belong there, such as tacks, pins, marbles, coins, etc. Small children, in imitation of their elders, had done the same thing, and babies have been left within reach of open safety pins, given improper things to play with, or else improperly prepared food. We note that the majority of such accidents occur in children under five years of age.

Symptomatology and Diagnosis.—The initial symptoms are choking, gagging, coughing and wheezing, often followed by a symptomless interval. The foreign body may be in the nasal chambers, nasopharynx, pharynx, larynx, trachea, bronchi, esophagus, stomach or intestinal canal, or perhaps passed by bowel, coughed or spat out, with or without knowledge of the patient, or, again, the initial coughing or choking may have been forgotten. With a history of foreign bodies having disappeared from the mouth, or any of the initial symptoms listed above, the presence of a foreign body should be suspected until its absence is proved, for the oversight of a foreign body may lead to grave complications, and especially is this true when the symptomless interval is considered.

Laryngeal Foreign Body: We usually have an initial laryngeal spasm, followed by a wheezing respiration, croupy cough and varying degrees of impairment in phonation. Pain may be present, and located in the laryngeal regions or referred to the ears. There may also be dyspnoea and cyanosis, with inspiratory indrawing of the supra-sternal notch, supraclavicular and intercostal spaces, and lower sternum. These foreign bodies may be quickly fatal, due to subglottic oedema or occlusion of the glottis.

Tracheal foreign bodies, when fixed, may produce only a wheezing and dyspnoea. When movable, they may produce, along with dyspnoea, a palpatory thrill, and the rumble and sudden stop can be heard with the stethoscope. Cough, hoarseness, dyspnoea and cyanosis are often present.

Bronchial Foreign Bodies: Dyspnoea is usually absent, although the respiratory rate may be increased if a considerable part of the lung is out of function by the obstruction of a main bronchus, or if the inflammatory sequelae are extensive. Here, also, pain may be present, and the physical signs show limitation of expansion on the affected side, impairment of the percussion note, and lessened transmission or absence of breath sounds distal to the foreign body.

The above symptoms may be followed by a symptomless interval of indeterminate time, often many years, but ultimately we get a cough and purulent expectoration, with periodic attacks of fever, chills and sweats, also emaciation, clubbing of fingers and toes, night sweats, etc., perhaps closely simulating the picture of tuberculosis, except for the absence of tubercle bacilli. The foregoing applies to metallic and non-irritating foreign bodies. Those of the irritating class, as peanuts, peas, beans, etc., usually produce violent and acute symptoms in which laryngeal spasm is nearly

*Read before the Piedmont Medical Society, June, 1925.

always present, and usually within twenty-four hours a diffuse purulent laryngo-tracheo-bronchitis ensues, accompanied by fever, toxemia, cyanosis, dyspnoea and paroxysmal cough. The condition of "drowned lung" rapidly ensues, the child being unable to cough up the thick mucilaginous pus, and literally drowns in its own secretions. The older the patient with organic foreign bodies, the less severe the reaction, but lung abscess develops much sooner than in cases of mineral foreign bodies.

Esophageal Foreign Bodies: These produce no clear-cut diagnostic symptoms. There may be dysphagia and regurgitation of food. Pain may be present, due to the penetration of a sharp foreign body or the inflammatory reaction. Perforation of the cervical esophagus may produce emphysema and cellulitis, while in the thoracic region we may have a mediastinitis or pyopneumothorax when the pleura is perforated. Gastric foreign body as a rule produces no symptoms. Roentgenology is of incalculble service in the diagnosis and localization of these foreign bodies, and has been developed to a high degree of efficiency in this field; and, last of all, in suspected cases of foreign body, we may do a diagnostic endoscopy, for it is a procedure attended by very little risk, and one in which there is no absolute contraindication, all procedures being carried out under local anesthesia.

I hope that I have been able to present a brief but helpful outline of the diagnosis of these conditions, and also to furnish some idea of the gravity and prevalence of this condition. Last of all, I wish to append the customary list of "Don'ts," for endoscopy has been developed to such a degree of efficiency and safety that many of the older ideas must be discarded, such as, don't make blind digital efforts at removal; you may only shove it down. Slapping on the back may accomplish the same result, and where there was a simple laryngeal foreign body, it may pass on to a lower bronchus. Don't suspend by the heels, for, if the invader is in the trachea, it may occlude the glottis and produce a sudden death. As for the esophagus, don't pass bougies or probangs, for perforation is all too frequent with these methods. Nor is it wise to advise eating of solid food; it can accomplish nothing, and may greatly complicate removal by endoscopy. And, finally, do not minimize the dangers, for the presence of foreign bodies in the body constitutes a grave condition, frequently causing death unless removed. The above remarks constitute a brief review of the work of Dr. Jackson, and for a more complete treatise his textbook should be consulted.

I wish now to report two foreign body cases that have come to us within the past month.

Case 1. Hospital No. 50835. Patient, a colored boy three years of age. Forty-eight hours previous to admission, while eating beans and meat with crushed bone in it, he became strangled and apparently aspirated some of the food.

On admission, patient could not speak above a whisper. Breathing was very wheezing in character, with marked expiratory and inspiratory dyspnoea, accompanied by indrawing of suprasternal notch, and supra-clavicular and intercostal spaces. Coarse and sibilant rales heard throughout both lungs, and resonance was slightly impaired.

X-ray examination showed a shadow of increased density in laryngeal region—thought to be the larynx. Direct laryngoscopy showed a foreign body in subglottic area in antero-posterior position. Slight amount of bleeding from laryngeal mucosa. Foreign body grasped during inspiration with alligator forceps, and removed. Examination showed an irregular flat piece of bone, with serrated edges, about 1 c.m. in diameter.

All symptoms rapidly subsided after extraction, and patient was discharged in three days.

Case 2. Hospital No. 51079. A nursing white child, eleven months old, had three days previously to admission been given squirrel meat. There was a choking and gagging, and baby had some difficulty in swallowing afterwards.

Examination was negative except for dysphagia and occasional regurgitation of food and liquids. X-ray showed a shadow of increased density localized in upper esophagus.

Oesophagoscopy with 7 m.m. tube showed a bony foreign body just below crico-pharyngeus, lying in transverse position. Foreign body grasped with side-curved forceps and readily extracted.

Child made an uneventful recovery, and was discharged on the following day, in good condition. Subsequent X-ray negative.

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Clinical Reports

PROGRESS REPORT ON A CASE OF PULMONARY TUBERCULOSIS TREATED BY THORACOPLASTY.*

By GERALD A. EZEKIEL, M. D., Richmond, Va.

This is the case of a Mrs. J. D., white, female, age forty, which was reported by Dr. Johns and discussed by me at the last annual meeting of this society. At that time only the first stage operation had been performed and the patient had gained ten pounds.

A brief summary of this case is as follows: Admitted to Pine Camp Sanitorium July 18, 1924. The history was typical, sputum positive. Physical examination showed cavitation of the left lung, very slight involvement of the right. X-ray July 24th:

"Right Lung: Slight peribronchial thickening, an occasional calcified tubercle is seen.

"Left Lung: Moderately well-advanced tuberculosis involving both lobes. Two cavities each approximately one inch in diameter are seen in the upper lobe." Weight 113 pounds.

Pneumothorax was commenced; but after a few weeks' trial, I came to the conclusion that, due to adhesions, it would not be successful. X-ray August 15th: "The lower half of the left lung is apparently totally collapsed. No fluid is visible. There is a marked pleural thickening close to the border of the heart and it is probable that there are pleuro-pericardial adhesions. The upper lobe is not collapsed, probably being held to the chest wall by adhesions. A cavity is seen in the apex. The heart has a slight displacement to the right."

I consulted with Dr. Johns, operation was decided upon, and six ribs resected. Following this, there was more rapid improvement, with cessation of symptoms, and in December, she weiged 144 pounds. X-ray report of September 19th: "The upper six left ribs have been resected in the scapular region. The entire lower lobe and a portion of the upper lobe is completely collapsed. The remaining portion of the upper lobe is compressed as a result of the operation. No fluid is found. The cavity reported on previous examination is not definitely seen."

Early in January, a second operation was performed by Dr. Johns. There was a slight set-back in her general condition at this time, from which she soon rallied, and improvement continued with no signs of activity, weight going up to 148 pounds. Sputum had become negative. She was discharged from the Sanitorium April 11, 1925, condition "Arrested." Physical examination showed no activity on the right, and collapse of the left lung—with no signs of activity. This patient has been kept under observation at the City Dispensary and, as late as August 13th, although away from the Sanitorium for four months, she maintains weight of 148 pounds. Physical examination shows no signs of activity.

The result has been most gratifying when you picture her condition in July, and note that in less than nine months she was discharged from the Sanitorium an arrested case. She is away on a visit now, else I should be glad to show the patient here today. On Sunday, October 11th, her daughter reported that the patient was doing well.

My object in reporting this case is to call attention at the end of a year to the good resulting from collapse of the lung, and from my own experience as well as the reports of others, I have every reason to believe that this will be parmanent.

1652 *West Grace Street.*

*Case Report rend befor the fifty-sixth annual meeting of the Medical Society of Virginia, at Richmond, October 13-16, 1925.

Proceedings of Societies

The Accomac County Medical Society

Held its annual meeting at Drummondtown Tavern, Accomac, Va., on November the 18th, with the president, Dr. W. M. Burwell, Chincoteague, presiding. There was a short business session at which Dr. J. H. Ayres, appointed at the last meeting, read the following resolutions on the death of Dr. E. W. Robertson:

WHEREAS, it has pleased Almighty God to call from our roll the deceased, Dr. Edgar W. Robertson, of Onancock, Va., *be it resolved,*

That in the death of Dr. Robertson the Accomack County Medical Society has lost a loyal member, the sick a conscientious and faithful attendant, and this community a citizen of recognized worth and high ideals, and

That this appreciation be spread upon the minutes of this Society.

Drs. J. H. Ayres and J. W. Robertson were appointed a committee to draft suitable resolutions on the death of Dr. O. L. Powell, of Onancock. Dr. Robert P. Cooke, recently of Front Royal, Va., but now in charge of Ac-

comac County Health Unit, and the county nurse, were elected honorary members of the Society. It was voted to hold meetings quarterly in the future at which times papers will be read and matters of medical interest may be discussed. Drs. Ayres, DeCormis and Edmonds were appointed a committee to arrange for a banquet or some social affair to be held at Accomac, in the near future. Dr. R. R. Nevitte, Temperanceville, was elected president; Dr. Rooker J. White, Keller, vice-president; and Dr. John W. Robertson, Onancock, was re-elected secretary-treasurer.

After the business meeting, addresses were made by Dr. Ennion G. Williams, State Health Commissioner, and Dr. Harry D. Grant, State Epidemiologist. Both spoke briefly of health work, especially as it interested Accomac County, and Dr. Williams referred to the value of an active County Medical Society to the State as well as to its members.

Nansemond County Medical Society Reorganizes.

On November 17th, about twenty Nansemond County doctors met in Suffolk and decided to reorganize and hold monthly meetings. For the present it is planned that these meetings shall be of the nature of a Journal Club. Dr. F. J. Morrison, Suffolk, was elected president, and Dr. C. F. Moriarty, head of the Nansemond County Health Unit, with headquarters at Suffolk, was elected secretary.

The Piedmont Medical Society

Held its regular semi-annual meeting at the Coffee Shop in Charlottesville, November 27, at which time supper was served those in attendance. Following routine business, papers were read by Drs. Cuthbert Tunstall, Harry T. Marshall and J. E. Wood, all of the University. Dr. Wylie C. Mason, Gordonsville, is president, and Dr. Lewis Holladay, Orange, secretary of this Society.

The Richmond Academy of Medicine,

Members of the Richmond Academy of Medicine, early in November, announced an increase in their fees. Under the new schedule, night visits between 11 P. M. and 8 A. M. will be charged at the rate of $10 each; from 8 A. M. to 6 P. M. visits will be $3; from 6 P. M. to 11 P. M., $5; and the minimum charge for office visits $2. Under the schedule, the minimum bill for emergency calls will be $5 and for uncomplicated obstetrical cases the fee is $50. These are to be effective at once.

The Truth About Medicine

In addition to the articles enumerated in our letter of September 26th, the following have been accepted:

Lederle Antitoxin Laboratories
- Concentrated Tetanus Antitoxin (Globulin)—Lederle.
- Scarlet Fever Streptococcus Antitoxin—Lederle (Refined and Concentrated.)

Radium Limited, U. S. A.
- Saubermann Radium Emanation Activator, 100,000 Mache Units.

E. R. Squibb & Sons
- Rabies Vaccine-Squibb Semple Method 14 Dose Treatment.

NEW AND NON-OFFICIAL REMEDIES

Protein S. M. A. (Acidulated).—A modified milk preparation having a relatively high protein content and a relatively low carbohydrate content. Each 100 Gm. contains approximately: protein (of milk), 35 Gm.; S. M. A. fat (consisting approximately of tallow oil, 0 to 10 per cent; cocoanut oil, 15 per cent; cacao butter, 20 per cent; cod-liver oil, 7.5 to 12.5 per cent; tallow 45 to 50 per cent), 22 Gm.; carbohydrate (lactose), 28 Gm.; ash, 6 Gm.; moisture, 2 Gm.; desiccated lemon juice, equivalent to 16.7 c.c. of fresh juice. The content of lactic acid is regulated so that when the substance is diluted according to directions the liquid will have a pH of 4.6. The use of protein S. M. A. (acidulated) is proposed as a means of checking diarrhea, in malnutition and marasmus, and in the feeding of prematurely born infants needing a high caloric intake. Laboratory Products Co., Cleveland.

Bromeikon.—A brand of tetrabromophthalein sodium—N. N. R. (formerly called tetrabromphenolphthalein sodium) (New and Non-official Remedies, 1925, p. 141.) Bromeikon is supplied in bulk and in ampules of 5 Gm. Mallinckrodt Chemical Works, St. Louis.

Typhobacterin (New and Non-official Remedies, 1925, p. 363.)—It is also marketed in packages of thirty 1 c.c. vials (M193-5) (hospital size) being ten sets of three immunizing doses. H. K. Mulford Co., Philadelphia.

Normal Horse Serum (New and Non-official Remedies, 1925, p. 329.)—Marketed in packages of one syringe containing 10 c.c.; also in package of one vial containing 20 c.c. Eli Lilly & Co., Indianapolis.

Pertussis Vaccine.—A pertussis bacillus vaccine (New and Non-official Remedies, 1925, p. 353), marketed in package of four 1 c.c. vials; in single 5 c.c. vial packages; in single 20 c.c. vial packages; and in packages of four 1 c.c. vials. Eli Lilly & Co., Indianapolis. (Jour. A. M. A., October 10, 1925, p. 1137.)

Schick Test—Gilliland.—A diphtheria immunity test (New and Non-official Remedies, 1925, p. 369), marketed in packages containing one vial of diphtheria toxin, the amount being sufficient for fifty tests. Gilliland Laboratories, Marietta, Pa.

Corpora Lutea Desiccated—P. D. & Co.—The dried corpora lutea of cattle and swine. For a discussion of the actions and uses, see Ovary, New and Non-official Remedies, 1925, p. 251. The product is supplied in capsules containing, five grains, and in tablets, containing respectively, two and five grains. Parke, Davis & Co., Detroit.

Streptococcus Vaccine—Lilly.—A streptococcus vaccine (New and Non-official Remedies, 1925, p. 359) marketed in single 5 c.c. vial packages and in single

20 c.c. vial packages. Eli Lilly & Co., Indianapolis.

Staphylococcus Vaccine—Lilly.—A staphylococcus vaccine (New and Non-official Remedies, 1925, p. 357), marketed in single 5 c.c. packages and in single 20 c.c. packages. Eli Lilly & Co., Indianapolis.

Staphylococcus Aureus Vaccine—Lilly.—A staphylococcus vaccine (New and Non-official Remedies, 1925, p. 357), marketed in single 5 c.c. vial packages and in single 20 c.c. packages. Eli Lilly & Co., Indianapolis.

Antistreptococcus Vaccine—Lilly.—An antistreptococcus vaccine (New and Non-official Remedies, 1925, p. 339), marketed in packages of one syringe containing 10 c.c.; in packages of one syringe containing 20 c.c.; in packages of one vial containing 10 c.c.; and in packages of one double ended vial containing 30 c.c. Eli Lilly & Co., Indianapolis.

Concentrated Tetanus Antitoxin (Globulin)—Lederle.—A tetanus antitoxin concentrated (New and Non-official Remedies, 1925, p. 332), also marketed in packages of one cylinder containing 10,000 units with gravity injecting outfit for intraspinal use. Lederle Antitoxin Laboratories, New York.

Pneumococcus Vaccine, Prophylactic—Lilly.—A pneumococcus vaccine (New and Non-official Remedies, 1925, p. 355), marketed in single 5 c.c. vial packages. Eli Lilly & Co., Indianapolis. (Jour. A. M. A., October 17, 1925, p. 1223.)

Vaccine Virus—Lilly.—A vaccine virus (New and Non-official Remedies, 1925, p. 341), marketed in packages of one capillary tube and in packages of five capillary tubes. Eli Lilly & Co., Indianapolis.

Typhoid-Paratyphoid Bacterial Vaccine Immunizing (New and Non-official Remedies, 1925, p. 361.)—This is also marketed in hospital size packages of ten complete immunizations. Gilliland Laboratories, Marietta, Pa.

Rabies Vaccine (Semple Method)—Squibb.—An anti-rabic vaccine (New and Non-official Remedies, 1925, p. 342) prepared according to the general method of David Semple (phenol killed). It is marketed in packages of fourteen syringes. E. R. Squibb & Sons, New York. (Jour. A. M. A., October 24, 1925, p. 1505.)

PROPAGANDA FOR REFORM

Calcium Therapy in Tuberculosis.—The theory that tuberculosis is accompanied by, and perhaps dependent upon, a demineralization, and especially a loss of calcium from the body, has not been supported by the best controlled investigations. There is no acceptable evidence that there is any decrease in the amount of calcium either in the blood or the tissues in tuberculosis. (Jour. A. M. A., October 3, 1925, p. 1082.)

The Aging of Natural Mineral Waters.—Recently completed studies indicate that certain iron compounds may undergo unique transformation on standing. It was demonstrated that some of the salts dissolved in the water as they come out of the deep interior ground are in a particularly "labile configuration." The still "active" iron ions have various properties in common with hemoglobin or blood iron. The inactive or "aged" iron salts show none of these properties. (Jour. A. M. A., October 10, 1925, p. 1139.)

Iron in Therapeutics.—It seems possible that much of the therapeutic uncertainty of iron administration may be cleared up by recent studies involving large numbers of nearly identical animals over long periods of time under uniform conditions, with respect to the effect of iron administration. It was found that *iron was stored* in the *liver or spleen*, but was not converted into hemoglobin. The experiments seem to show the futility of prescribing iron in anemia. On the other hand, the efficiency of food iron seemed pronounced. (Jour. A. M. A., October 10, 1925, p. 1140.)

Adropsedema, A Recrudescence of Shot-gun Therapy.—Adropsedema is a "dropsy cure" of the Anascarcin type, marketed by the Van Seaton Chemical Company, Fort Worth and Chicago. It comes in the form of tablets which, according to a circular, contain in each tablet: Strophanthin 1-240 gr.; spartein sulphate, 1-64 gr.; "apocynin" 1-4 gr.; "ext. urginea scillae" 1-5 gr.; "gelsemin" 1-8 gr.; "ext. sambucus" 1 gr.; ferrous carbonate 1-2 gr. Elsewhere the "formula" includes "cactus grandifolium 4 gtt.", "gelsemium" instead of "gelsemin," and "reduced iron" instead of ferrous carbonate. The "cactus grandifolium 4 gtt." probably refers to some liquid preparation of Cactus grandiflorus. While the complexity of the "formula" makes it impossible to use this preparation intelligently, the advertising asks physicians to study the "formula" of this blunderbuss. The thoughtless and ill-considered use of this preparation is suggested by statements such as "Adropsedema does the work; what more do you want? When in suspense, prescribe Adropsedema." (Jour. A. M. A., October 10, 1925, p. 1152.)

Neurosine.—The Council on Pharmacy and Chemistry in 1915 reported that Neurosine (Dios Chemical Co.) is a shotgun nostrum which violates practically every principle of modern therapeutics. The manufacturers claim that each fluid ounce contains: "40 grains C. P. Potassium Bromide, 40 grains C. P. Ammonium Bromide, 40 grains C. P. Sodium Bromide, 1 grain C. P. Zinc Bromide, 32 grains Extract Lupuli, main part of Robinson's "Cure" was coarse sand, and this is confirmed by the report of the A. M. A. Chemical Laboratory. A physician has reported the .60 grains Extract Cannabis Indica, .075 grains Extract Belladonna, .075 grains Extract Henbane, 40 minims Extract Cascara Sagrada, .060 grains Oil Bitter Almonds, 5 per cent alcohol and Aromatic Bitters." Neurosine, therefore, contains 121 grains of bromid in each fluid ounce. The formula of Neurosine is, however, not featured by the promotor. The danger of administering such a preparation as Neurosine without knowing its bromid content is apparent. (Jour. A. M. A., October 10 (1925, p. 1155.)

Orargol Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Orargol (Anglo-French Drug Company) is stated to be a colloidal suspension of silver and gold prepared electrically from an alloy composed of gold 10 per cent and silver 90 per cent. On the basis of the available evidence the Council declared Orargol inadmissible to New and Non-official Remedies because the claims made for it are unwarranted and because it is an unscientific mixture. (Jour. A. M. A., October 17, 1925, p. 1241.)

Rayminol Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Rayminol (Doyle), according to its proprietors, the Phairmount Laboratories of Hackensack, N. J., is stated to be "a scientific union of liquid petrolatum, aromatized rhubarb and phenolphthalein (0.03 gm. to each 4.0) pancreatized." Rayminol, therefore, appears to be a preparation containing liquid petrolatum, phenolphthalein, a preparation of rhubarb, and a pancreatic preparation, all in undeclared amounts except the phenolphthalein which appears to be present in the proportion of 0.03 gm. per 4 c.c. Rayminol was found unacceptable for New and Non-official Remedies because it is a complex, irrational mixture of indefinite composition which is marketed under a nondescriptive name with unwarranted therapeutic claims and in a manner that fosters the

ill advised use of purgatives by the public. (Jour. A. M. A., October 17, 1925, p. 1241.)

Possible Danger of Poisoning From Mercurochrome.—Sufficient evidence has been published to show that mercurochrome causes little or no gastro-intestinal disturbance until it has been taken in large doses for a week or more. In New and Non-official Remedies it is stated that no systemic effects have been observed following the local application of mercurochrome. This, together with the fact that the preparation is offered for lay use only in small packages of the solution, would seem to make the use of mercurochrome by the laity no more dangerous than that of tincture of iodin. (Jour. A. M. A., October 17, 1925, p. 1242.)

Asthmolysin.—According to the advertising, Asthmolysin is a German proprietary and is "a combination of the suprarenal and pituitary hormones in distinct proportion" which is prepared by a "special method." In the series of articles on glandular therapy published under the auspices of the Council on Pharmacy and Chemistry, the opinion was given that the use of pituitary in bronchial asthma is contraindicated. (Jour. A. M. A., October 27, 1925, p. 1243.)

Robinson's Pernicious Anemia Cure.—One W. A. Robinson, of Sisseton, South Dakota, has been exploiting an alleged cure for pernicious anemia during the past three or four years. His statements regarding the cause and cure of pernicious anemia prove him to be utterly ignorant of medicine. Robinson charges thirty dollars for a treatment. From letters received from physicians it seemed that the main part of Robinson's "cure" was coarse sand and this is confirmed by the report of the A. M. A. Chemical Laboratory. A physician has reported case of a patient suffering from pernicious anemia who had taken the Robinson treatment and who apparently died from hemorrhages caused by the sand which had been swallowed. (Jour. A. M. A., October 24, 1925, p. 1323.)

Tripp's Liquor Rheumatica.—During the past year there has been an extensive campaign on a nostrum known as "Dr. Tripp's Liquor Rheumatica" put out by a concern calling itself the Norwood Pharmaceutical Company. Before starting its newspaper campaign, the firm resorted to the old method of working the medical profession and physicians were circularized with an urge to use Liquor Rheumatica in cases of "chronic rheumatism." Regarding the composition, the circular addressed to physicians vaguely mentions potassium iodid, "phytolacca-rheuma"—whatever that may be—cimicifuga and calisaya and cinchona compound. The quantities of the drugs were not given. The "Liquor Rheumatica" now sold was analyzed by the A. M. A. Chemical Laboratory. From its examination the Laboratory concluded the preparation to be essentially a weak alcoholic solution of potassium iodid with a dash of cinchona alkaloid. There is no use for the exploitation of a mixture such as Liquor Rheumatica in the form of a "home remedy" for self-drugging. (Jour. A. M. A., October 31, 1925, p. 1418.)

Gly-So-Iodonate ("G. S. I.")—This product was refused admission to New and Non-official Remedies because it was exploited under a non-descriptive and misleading name and with a statement of composition not only chemically absurd, but obviously incorrect. Inquiry made among a number of hospitals and industrial concerns which, according to the advertising for Gly-So-Iodonate had used the preparation, revealed no enthusiastic users of "G. S. I." and showed that the exploiters were using some references as misleading as the formula for their nostrums. (Jour. A. M. A., October 31, 1925, p. 1420.)

Book Announcements

Diseases of Infants and Children. By HENRY DWIGHT CHAPIN, M. D., Emeritus Professor of Medicine (Diseases of Children) at the New York Post-Graduate Medical School and Hospital, Ex-President of American Pediatric Society, etc., and LAWRENCE THOMAS ROYSTER, M. D., Professor of Pediatrics and Head of the Pediatric Department of the University of Virginia. Fifth Revised Edition. New York. William Wood and Company. 1925. Octavo of 633 pages, freely illustrated. Cloth. Price, $6.00.

Etude sur la Vieillesse et le Rajeunissement par la Greeffe. Par le DR. SERGE VORONOFF, Directeur du Laboratoire de Chirurgie Experimentale du College de France. Avec 35 planches hors texte. Paris. Librairie Octave Doin, Gaston Doin, Editeur, 8, Place de L'Odoen, 8. 1926.

The Therapy of Puerperal Fever. By Privatdozent DR. ROBERT KOEHLER, formerly assistant of Gynecological Department of the Krankenhaus Wieden. **American Edition** prepared by HUGO EHRENFEST, M. D., F. A. C. S., Associate in Obstetrics, Washington University School of Medicine, Obstetrician and Gynecologist of the Jewish Hospital, St. Louis, etc. St. Louis. C. V. Mosby Company. 1925. Octavo of 276 pages with 27 illustrations. Cloth. Price, $4.00.

A Text-Book of Physiology. By WILLIAM D. ZOETHOUT, Ph.D., Professor of Physiology in the Chicago College of Dental Surgery (Loyola University) and in the Chicago Normal School of Physical Education. Second Edition. St. Louis. C. V. Mosby Company. 1925. 8vo. of 616 pages, illustrated. Cloth. Price, $4.50.

Intravenous Therapy. Its Application in the Modern Practice of Medicine. By WALTON FOREST DUTTON, M. D., formerly Medical Director, Polyclinic and Medico-Chirurgical Hospitals, Graduate School of Medicine, University of Pennsylvania; Director Medical Research Laboratories, Amarillo, Texas, etc. Second Revised and Enlarged Edition. Philadelphia. F. A. Davis Company, Publishers, 1925. 8vo. of 594 pages. Illustrated with 64 halftones and line engravings, some in colors. Cloth. Price, $6.00 net.

Insects and Disease of Man. By CARROLL FOX, M. D., Surgeon, U. S. Public Health Service; Lecturer on Medical Entomology to the Class of Student Officers, Hygienic Laboratory, Washington, D. C., etc. Philadelphia. P. Blakiston's Son and Company, 1012 Walnut Street. 1925. 8vo. of 349 + xii pages, with 92 illustrations. Cloth. Price $4.00.

Submucous Endocapsular Tonsil Enucleation. With Discussion of the Evolution of Knowledge of the Tonsil as a Disease Producing Factor and Various Methods of Enucleation. Excerpts from the Clinics of CHARLES CONRAD MILLER, M. D. The Oak Press, 358 West Madison Street, Chicago. 1925. Small, 8vo. of 218 pages with some illustrations.

Applied Biochemistry. By WITHROW MORSE, Ph.D., Professor of Physiological Chemistry and Toxicology, Jefferson Medical College, Philadelphia. Philadelphia and London. W. B. Saunders Company. 1925. Octavo of 958 pages, with 257 illustrations. Cloth. Price, $7.00 net.

XUM

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Editorial

Periodic Physical Examinations.

One need not take the trouble to state the reasons why persons should be examined for the detection of errors in habits, of physical imperfections, of dysfunction of organs, of obvious or lurking depots of infection, of beginning or advanced pathology. To physicians of all sorts, general and special, such a tabulation of reasons would be supererogation. All doctors agree to the fundamental need for early discovery of defects in habits of living, in imperfect physical construction, of dysfunction in digestive organs, in metabolism and elimination of acute or chronic infections, of the occurrence of pathologic changes in structures of the body in the layman or the doctor, himself. All too unfortunately physicians, themselves, wittingly or otherwise, become victims of advancing diseases, without making efforts at their discovery or eradication. Hence, it is not necessary to state reasons, for periodic examinations of the apparently healthy; but it is important to engage the interest of physicians in the subject, and to offer suggestions for the adoption of periodic examinations by general practitioners throughout our state, and to have the idea popularized among the people.

It is very certain that a plan for conducting the examination should be agreed upon. The limits of examinations are almost boundless; one can exhaust the subject by the institution of all the methods, physical or laboratory. Absurdity must be avoided in any plan, yet, all reasonable completeness must be followed in the examinations. In fact it is almost beyond reasonableness to expect one to adopt a procedure of examinations with restrictions or limitations, when exigencies of investigations may demand wider and more extended efforts.

But it is true, within normal limits, that the periodical examinations of the supposedly healthy person, as well as persons having rechecking examinations on diseases previously diagnosed, may be conducted without a vast amount of elaborate or intricate laboratory study. From this complexity of diagnostic procedure the "health examination" must be spared, if it is to be widely adopted by the profession, or generally employed by the laity. So, the examination should be along the line of common sense and simplicity, at least, until discovery is made of possible disease demanding more intricate and searching procedure.

Before discussing what measures should be adopted by the profession to bring this need to the minds of the laity, it would seem important for general practitioners to think out a standardized plan of examination. When this is worked out and physicians have familiarized themselves with the details of the plan, perfecting themselves with that degree of expertness which will enable them to conduct the examinations, the ways and means for urging the laity to secure the examination may be wisely considered. Fortunately a plan of examination has been worked out under the auspices of the American Medical Association. In ""The Manual of Suggestions for the Conduct of Periodic Examinations of Apparently Healthy Persons," recently issued by the American Medical Association, one gets an idea of the plan.

Method

The history of the subject to be examined is very important. The questionnaire, which should be carefully filled out by the person, should be carefully considered by the examiner and supplementary inquiries be made on points suggested by the applicant's statements. The occupation, conditions of work, home surroundings, habits of eating, kind and quality of food taken daily, the manner and frequency of eating, the effects of food, the quantity of water taken daily, habits in the use of coffee, tea, alcohol, tobacco, and coca cola; sleep, whether restful or disurbed by dreams, whether morning headache, depression, or absence of hunger, occurrence of weakness or "goneness"

in the morning:—all enter into the background for the estimation of the degree of health of the individual. The history of infections—tonsillitis, toothache, rheumatism, pneumonia, influenza, typhoid fever, malaria, tuberculosis, scarlet fever, diphtheria, syphilis or gonorrhea, or other infections, form an important angle in the inquiry. The family history should not be neglected. The occurrence of illness and death in the family history may give a lead to a significant phase of the physical survey.

The physical examination should be conducted at the physician's office, at an appointed hour, preferably outside of the time given the sick, seeking professional advice and diagnosis. The subject should be stripped; in the case of females, a sheet may be employed in the interest of modesty and decency. The physical examination should begin with taking the height and weight, examination of the head; the neck; the chest; the abdomen and the extremities. The subject, in a standing posture, should be investigated as to muscle tone, gait, state of nutrition, condition of the skin, occurrence of glandular enlargement, the hands and feet, the genitals; in the sitting posture, the applicant is in good position for testing eyes, hearing, examining condition of the teeth, tonsils, nose and ears, glandular enlargement in the neck, pulsations of the vessels in the neck. The chest should be studied by inspection, percussion, palpation, and auscultation. The heart should be gone over, observing the rate, the sounds, the presence of murmurs and the rhythm and so on. The lungs should be observed for adventitious sounds. The pleurae may be examined for friction rub. In the recumbent position the heart should be gone over again, and the abdomen should be explored manually to discover tenderness, enlargement or displacement of organs. The liver and spleen should especially elicit one's interest, as well as the kidneys. The ovaries in the female and the prostate in the elderly male should not be overlooked. The blood pressure should always be taken. The temperature, the pulse rate before and after exercise, the expansion of th chest should also be noticed. Examination of the urine should always be done, particularly looking for albumen, sugar and casts, noticing the specific gravity and acidity. The reflexes of the body should be gone over; the station and the gait should be noted.

Equipment

For such an examination the following simple instruments will be needed—scales, tape measure, tongue depressor, spot light or reflector, stethoscope, blood pressure instrument, speculum for the nose and ears, rubber gloves, urine testing outfit, vision chart, and flesh pencil. If physical findings suggest blood study, sputum examination, Wassermann test, spinal puncture, stomach test, etc., these laboratory studies should be made.

Some Details

Overweight and underweight must be explained. A standard table of weight and height, at varying age for male and female, is easily obtained, and should be consulted. Excessive overweight is a deformity and a menace. The causes should be determined. Habits of the individual in the kind and quantity of food and drink, the disturbance of glands of internal secretion, and the basal metabolic rate should be known, together with the patient's habits of work and exercise. So, with the marked underweight, an explanation should be arrived at: whether there is a lurking infection, such as tuberculosis, without obtrusive signs; diabetes, or Bright's disease; digestive disturbance, or pathology in the gastro-intestinal tract; insufficient food, illy balanced rations, hypothyroidism, or what not. An explanation for extreme overweight and underweight should be sought.

The heart action and the blood pressure should receive careful consideration. The heart should be examined in several positions, especially after brief exercise. Note should be made of the apex beat, apparent size of heart, area of cardiac impact, the force and character of heart systoles and the rate and rhythm of the heart before and after exercise. Auscultation should give the character of the first and second sounds, the occurrence of murmur in the right or left heart, and the quality and tone of the heart sounds.

The pulse should be noted in sitting, standing, and prone positions, and also after exercise. Thirty hops on each foot and a rest of two minutes, with return of a normal rate by the pulse, enables one to feel that there is a good heart muscle reserve. The increase of forty to sixty beats, after exercise, is expected but in a normal person the pulse should return to its former rate after two minutes of rest.

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Blood pressure should be taken by the auscultatory method, and systolic and diastolic readings should be made. One should remember that eating and exercise influence the systolic blood pressure, while diastolic pressure is less affected by these conditions. One should also remember that blood pressure readings are not to be relied upon alone. The writer recalls a patient between fifty and sixty years of age in whom the blood pressure readings never exceeded one hundred and sixty for several years before apoplexy. There are a small number of patients now under observation who for months, one case for three years, have been averaging a systolic pressure around two hundred. There is one case with the pressure between two hundred and fifty and three hundred for many years. So one can not rely upon readings, still these must be taken into consideration in relation to the physical and laboratory findings, as well as the subjective symptoms elicited. Low blood pressure is of real significance and should not be overlooked; not that, in every case, low blood pressure readings indicate a serious condition, but rather that a low blood pressure reading indicates several possible significant clinical entities of importance. One may insist upon a case of hypertension, or one of hypotension, pursuing a definite course of treatment, and also upon a regular monthly consultation for checking up the condition of the patient.

Focal infection in relation to disease should necessarily assume a dominant position in such examinations as are here receiving consideration. Periodic examinations for the discovery of oral focal infections are extremely important. Why should pus pockets and suppuration be tolerated by the patient, and by examiners? One may be very strong, very careful in eating, very robust, and careful in exercise, but, with chronic suppurating foci in the mouth, or elsewhere, be really not a strong man.

Lung examination is also of obvious importance. In connection with the history of acute bronchitis or frequent colds and loss of weight, the examination of the lungs should be carefully made with a stethoscope. The examination should be on the bare chest with the patient sitting on a stool facing the examiner. The chest, under quiet and deep breathing, should be inspected, palpated, percussed, and auscultated. The stethoscope should be used carefully above the third rib in front and above the spine of the scapula. One should carefully listen to the inspiratory and expiratory note and elicit, if present, signs of moisture. Such conditions should engage the interest of the physician. The suspicion of tuberculosis must be run down to confirmation or disproof. Sputum, X-ray examinations and a number of careful physical examinations should be made before reaching a diagnosis under incipient signs. Examination of the urine should invariably be made in all periodic surveys of the body. By this one may judge of the state of the kidneys as well as other organs of the body. Bright's disease and diabetes may by this be brought to light, before obtrusive symptoms appear. The presence of pus and blood in urine may point to physical abnormalities of the urinary tract or in the body, previously unsuspected. The specific gravity of the urine may indicate the need for more drinking of water. The trace of sugar in the urine may suggest hyper- or hypoglycemia. Color, deposits, blood, pus, specific growth, presence of albumin or sugar, quantity of passes in twenty-four hours, frequency of urination, and microscopic observation, are simple but extremely significant observations for physicians to make.

Feces require some consideration in every examination. An inquiry should always be made of the patient as to the characteristics, quantity, color, and quality of the feces. In the light of a history of disturbance of the digestive tract, microscopic study should be made.

"Sell" the Periodic Examination Idea to the Laity

One should not use the term "sell" in dealing with a problem of preventive medicine, which intrinsically is as remote from the domain of business as can be. But the term "sell" is employed for its present-day meaning, the act of securing the adoption of an idea and the putting of the same in sustained practice. That is the crux of the problem. Physicians may agree that this is an excellent idea. But to rely upon the slow and inadequate method of awaiting the results of widespread application to come through the individual efforts of physicians among clientele coming daily to the office for consultation, is an altogether inadequate plan. The idea cannot be "sold" by this plan. Agencies outside, and in addition to the efforts of the physicians, must be employed

in the campaign for widespread adoption of the periodic examination. Besides, before these outside agencies shall be sent to work, it should be clearly understood that the movement should absolutely be kept free from a possibility of floundering upon the shoals and rocks of commercialism or social medicine. The basic protection of all health concerns in America today depends upon the maintenance of the dignity, rights, and full protection of the family dictor. When any plan is adopted that impairs the dignity, rights and usefulness of the family doctor, or general practitioners, if you please, such a plan strikes a serious blow at the most potent agency of preventive medicine today.

Then it seems that the agency to put this plan across with the laity is the Board of Public Health, the daily papers, and the popular magazines. The doctor himself may do his bit also, but the big end of the campaign must be conducted by agencies outside. So, finally, editorially, we conclude our comment by saying that it is largely up to your Boards of Health and agencies of organized medicine to popularize the idea.

In connection with the subject discussed above, attention is called to a "Manual of Suggestions for the Conduct of Periodic Examinations of Apparently Healthy Persons," published by the American Medical Association, upon which the above comments are largely based. It embodies suggestions for the conduct of the physical examination and also for the hygienic advice to be given to the health client.

This manual is an elaboration of the original report presented to the House of Delegates in 1923, and prepared by a committee of which Dr. Haven Emerson was charman, and Drs. Rock Sleyster, Edgar A. Hines, Tom B. Throckmorton, Walter F. Donaldson and Olin West, of the group of Secretaries of the State Medical Societies, were the other members.

The additional material has been drafted by a special committee consisting of Drs. Isaac Abt, Joseph A. Capps, Charles A. Elliott, Haven Emerson, Joseph L. Miller, Alfred E. Shipley, and Alec N. Thompson, Dr. Anna Mann Richardson and Dr. H. Douglas Singer, of Chicago.

The manual is for sale by the American Medical Association at the following prices: Single copy, $0.20; 5 copies $0.75; 10 copies, $1.25; 25 copies, $2.50; 50 copies, $4.50; 100 copies, $8.50; 500 copies, $40, and 1,000 copies, $80.

In order to promote the wide distribution and use of this manual, it is hoped that the various county medical societies will arrange to secure a sufficient number to supply each member of every society with a copy.

The following subjects listed in the Table of Contents will indicate the scope and usefulness of the Manual:

Introduction—Origin of Periodic Health Examination Movement, Action of House of Delegates, Necessity for Examinations, Examinations Reveal Defects, Physicians Need to Teach Care of the Body, Adult Instruction the Present Need.

History of the Applicant—Form A of the Blank Discussed—History of Applicant, Details of Personal History.

Physical Examination—Form B of the Blank—The Medical Health Examination, Equipment and Facilities, Divisions of Form B, Details of Physical Examination, Height, Weight, Weight Charts, Temperature, Pulse, Blood Pressure, Hearing, Vision, Urine, Feces, Other Possible Laboratory Tests, Posture, Nutrition, Skin, Glands, Breast, Chest, Hands, Male Genitals, Hernia, Legs, Romberg Sign, Hair, Eyes, Teeth and Gums, Tongue, Ears, Heart, Respiratory System, Nose, Tonsils and Pharynx, Lungs, Tuberculosis, Abdomen, Girth Measurements, Reflexes and Sensation, Liver, Spleen, Kidneys, Female Genitals, Rectum, Special Groups, Industrial Hazards, Summary of Findings.

Hygienic Advice—Health Prescriptions—Two Illustrative Cases, Examples of Prescriptions, Printed Instructions, Study of Community Resources for Health, Overweight and Underweight, Overweight, Method of Approach to the Individual, General Principles in Prescribing Diet, Individual Clients, Prescribing the Diet, Opinions about Water Differ, The Part Exercise Plays, Underweight, Poverty not the Cause, Diet in Underweight, Exercise is Secondary to Rest, Constipation, Influence of Muscle Tone, Habits of Eating and Drinking, The Cathartic and Enema Habit, Suggested Diet Prescriptions, Muscle Tone and Posture, How to Judge Posture, Muscle Tone, The Skin and Hair, The Extremities, Blood Pressure, Difficulty in Sleeping, Nervousness, Female Genitalia, Conclusion.

Physicians interested in this question and wishing to formulate a system for personal use in practice, may employ the accompanying blank, prepared and published by the American Medical Association as a guide in the preparation of history and examination forms.

A. G. B., JR.

About Blood.

Beginning soon after the Homeric period observers began to note that disease followed, what we might consider, natural laws in its development and course. The idea held up to then that disease was of demonic origin was now no longer tenable. Instead, the causes must be sought in the body fluids, and about

500 B. C. we find Hippocrates, with his school, presenting the theory of the "four humors." Accordingly it was reckoned that an individual was normal or not according to the balance in his body of the fluids—blood, phlegm, yellow bile and black bile. The old nomenclature and theory of this school have curiously enough been handed down to us in the terms yet used "sanguine," "phlegmatic," "bilious," and "melancholiac," supposedly indicating a preponderance of blood, phlegm, yellow bile or black bile.

As crude as we find this theory, it had very notable merit in that it fixed the study of disease processes upon natural, rather than unnatural, causes and was the early beginning of the centuries of study and investigation which have yielded our present day medicine, which, although unfinished, is beginning to assume certain definiteness and attributes of the scientific. Their accomplishments, with efforts handicapped by lack of exact and precise instruments of scrutiny, are an inspiration and a foundation. Science, as we know, includes all things, but from our interests as practitioners of medicine we naturally expect to enter this circle through a study of the body. What portion or tissue could be more important for this than blood—the nutrifier and purifier of the body?

Perhaps, if we carried a perfectly clear idea of normal values in volume, cytology and chemistry of this tissue, we would wear better lenses through which we could see the interesting and important phases of its diagnostic and prognostic aid.

The blood is of mesodermic origin, and is a form of connective tissue in which the cells are never fixed and the intercellular substance is fluid. Certain columns of cells in the embryo, designated to become blood vessels, early show a loosening of their central cells, and these cells become floaters at first, hemoglobin free and nucleated. Later, they begin to show hemoglobin, are very large, and constitute what we know as megaloblasts. They multiply at this period in the blood stream by mitosis and are soon joined by smaller cells of endothelial origin. The endothelial cells, forming the yolk sac, give off a kind of large, granular, nucleated cell, larger than megaloblasts, known as megakaryoctes, which soon fragment and form platelets.

During the first month the red cells are nucleated and gradually by the end of the third month a majority have lost their nuclei.

The leukocytes appear in the blood during the second month, and their origin is probably in the lymph nodes, spleen, liver and bone marrow. And while in all mammalians we normally have one blood forming organ, it is interesting and important to note that under great stress blood generation is reassumed in these fetal blood-forming tissues.

It seems well to carry a small amount of the embryology of blood in order that we may recognize that the presence of embryonal cells in the circulation indicate that the blood is being rushed into place before it has time to mature and this in turn bespeaks an unusual drain—either abnormal blood loss or destruction.

In adult life we find the red cells numbering from 4,000,000 to 6,000,000 per cu. m. m., about 7 microns in diameter, and biconcave, non-nucleated and staining evenly with acid stains. There should be little variation in size, shape or staining.

It is customary for cytologists to report g r a n u l ation, polychromatosis, anisocytosis, poikilocytosis and nucleation.

The amount of coloring in each red cell is determined by dividing the per cent normal of hemoglobin by the per cent of the normal number of red cells present. The value is normal at 1, but varies considerably with the different anemias. An increase generally suggests pernicious anemia while in secondary anemias we find a decrease. In chlorosis and leukemia hemoglobin indices are below normal.

The determination of hemoglobin content seems to have been one of the earliest efforts in blood chemistry, and it is somewhat of a surprise in going over the standards used to find that they are and have been largely empirical, individual and greatly at variance. Of the older instruments, Fleischman-Miescher used actual percentages of hemoglobin. Sahli chose 17.2 gms. per 100 c.c. of blood as standard. Haldane employed as a standard of 100 per cent a 1 per cent solution of blood having an oxygen capacity of 18.5 per cent. Such a blood contains approximately 14 gms. per 100 c.c. Haden uses 15.83 gms. per 100 as standard.

Williamson and Newcomer have probably done the best work on this, and after very careful analyses Williamson determines the actual

hemoglobin content of male blood as 16.92 gms. per 100 c.c. of blood and female as 15.83 gms. per 100. Newcomer, adopting this as standard, has produced a permanent colored glass disc which is used in a colorimeter. He also, in order to call attention to the errors in past estimations, suggests reporting the findings as gms. per 100. But for the time, at least, it seems wise to use both gms. per 100 c.c. and percentages in these reports in order to avoid confusion.

There are slight age variations with which the pediatrician should familiarize himself. Infants at birth—23.25 gms.; infants at the end of the third month—14 gms.

There is a decline in both male and female hemoglobin content after sixty years of age.

In most—not all—cases showing decreased hemoglobin, there exists a diminished number of red cells per volume of blood. The decrease in the number of cells and the normal hemoglobin furnish the index to the severity of the anemia. In case of hemorrhage a sudden reduction of red cells to 100,000, or less, generally terminates fatally. In leukemias the red cell count is generally not markedly reduced. Toxins of specific fevers, acute pyogenic infections and malignancy cause reductions.

The companion cells of the erythrocytes or the leukocytes have been studied simultaneously with them. These cells normally number 8,000 to 10,000 per cu. m.m., and vary in total and percentages both physiologically and pathologically.

Physiologically, they increase in digestion, exercise, at altitudes, in infants (first week to 15,000), and bathing.

Pathologically they increase in pyogenic infection, malignant tumors, post-hemorrhagic conditions, drugs (turpentine, camphor, peppermint, quinine, ethereal oils), shock (mental and physical), following protein injections, anemias (splenic and leukemic), and measles (before eruption).

They decrease in typhoid fever, tuberculosis, malnutrition, intoxications from heavy metals, narcotics and alcohol, in measles (following eruption) and influenza.

The percentages of leucocytes should be approximately normal under two years at:

Polymorphonuclear Neutrophiles	40	-60	%
Small Lymphocytes	40	-60	%
Large Lymphocytes	4	-10	%
Transitionals	.5	- 1	%
Eosinophiles	1	- 2	%
Basophiles		.5	%

Above two years, the percentage gradually changes until by about eleven years it is within adult normals.

Polys.	65	-70	%
Small Lymphs.	20	-26	%
Large Lymphs.	4	- 8	%
Eosinophiles	1	- 2	%
Basophiles		.5	%

In most cases of acute infections and inflammatory conditions the polymorphonuclear neutrophiles increase and this increase is generally parallel to the temperature increase. However, infections of influenza, tuberculosis, typhoid and malaria do not cause a polymorphonuclear neutrophilosis.

The post-hemorrhagic leukocytosis is a part of the general rushing into the blood stream of new blood and is not considered a body reaction but mechanical. The mixed leukocytosis in which both granular and lymphocytic elements are increased is seen in the leukemias where myelocytes are abundant.

Lymphocytosis occurs in poorly nourished children, with whooping cough, gastro-intestinal disturbances, cervical adenitis, splenic tumors, lymphatic leukemia, Hodgkin's disease.

Eosinophilia occurs in spleno-myelogenous leukemia, sarcoma of the bone marrow, osteomyelitis, intestinal parasites, after extirpation of the spleen, bronchial asthma, emphysema, skin diseases (especially those produced by toxic agents), myalgias, chronic gonorrheal infections and trichinosis.

Blood platelets should number 225,000 to 350,000 per cu. m.m. No facts of clinical importance have as yet been forthcoming about the platelets.

Blood Chemistry

The detailed study of cells gave little light upon metabolic conditions and it has remained for American workers using American methods and apparatus during the last ten years to make wonderful progress in diagnosis, prognosis and therapeusis of the metabolic conditions. There is now a definite foundation in blood chemistry which is of distinct assistance to the internist and surgeon, the urologist, the obstetrician and pediatrician.

Most recently, interesting blood volume work, by using vital red and colorimetric

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methods, has determined that blood volume is 8.8 per cent body weight instead of 7 per cent as formerly used thus making our fraction 1/11 instead of 1/13 of body weight.

Samples of blood for blood chmistry should be taken from the venous and not the arterial or capillary circulation; unless well iced the sugar determination is diminished too much to be an index after 24 hours of collection.

For all determinations except blood calcium, potassium oxalate is used as the anticoagulant and it should be in the proportion of 20 mgs., to each 10 c.c. of blood. The blood should be actively agitated after collection to insure thorough mixing and prevention of clotting. When calcium is to be determined, potassium citrate is used to prevent clotting. The length of time after meals has a bearing on blood chemistry findings and samples are most reliable when taken in the morning before breakfast.

Normals have beeen practically established and for venous blood the following table shows these and variations which may be of interest to those working in special lines:

In generalization, we can remember that the ease of excretion of creatinine, uric acid and urea through the kidney is in the order in which they are named and that we have a more serious condition existing where the creatinine is held in the blood than where the urea is held in.

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Clinical Diagnosis by Laboratory Methods. Todd.
Nelsen's Loose Leaf Living Medicine.
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J. O. F., JR.

(In this Table, "–" is used to indicate "up to", not minus)

	Nonprotein Nitrogen	Urea Nitrogen	Uric Acid	Creatinine	Sugar	Cholesterol	CO_2 Plasma	Chlorides
Normal Blood	25–40mgs.	10–20	2– 3	1– 2	90–120	167–255	53–77	450–500
For Internist & Surgeon								
Renal diabetes					80–120			–400
Diabetes mellitus			4– 10	2– 4	–400	–800	10–50	
Nephritis:								
Acute		–100	5– 10	2– 6	–180			–600
Early Interstitial	– 50	– 37	– 12	– 4	–150			–600
Late Interstitial	–350	–300	– 27	– 70	–300	–300	12– 40	12– 40
Chronic Diffuse		–230	– 10	– 15	–250	–900	– 30	–600
Uremia	90–350	–300		– 4				
Gout			4– 10					
Hyperthyroid		Inc.			Inc.	– 80		
Cholethiasis						130–300		
Bichloride Poisoning	–370	–300	– 36	– 35	–200	– 35	– 25	–114
Pneumonia		– 53	– 18	– 3.5	–180		– 33	Dec.
Pernicious Anemia	–110	– 75	– 10	– 3	–300	– 60		–600
For Urologist								
Prostatics	Inc.	– 30	3– 9	1– 5	–160			
Bladder Neoplasms		– 30						
For Obstetrician								
Pregnancy	Dec.	Dec.						
Hyperemesis			– 5					
Eclampsia	25– 45	– 25	– 8	– 3		Inc.	43– 58	Inc.
For Pediatrician								
Acidosis							Dec.	
Tetany	Calcium reduced below 3.7 mgs. per 100 c.c. of blood.							

News Notes

Christmas Greetings

to All our Readers

and

Best Wishes for a Happy and Prosperous 1926.

The Seaboard Medical Association of Virginia and North Carolina

Held its thirtieth annual meeting and clinical session at Norfolk, Va., Decembef 1, 2 and 3, with Dr. R. L. Payne, Norfolk, president, in the chair. The meeting was well attended and many interesting papers were read. The entertainments included a luncheon, the president's reception and an oyster roast at Cape Henry.

It was decided to meet next year in New Bern, N. C., and the following officers were elected: President, Dr. George A. Caton, New Bern, N. C.; vice-presidents, Drs. R. M. Cox, Portsmouth; Zenas Fearing, Elizabeth City, N. C.; W. P. McDowell, Norfolk; and David T. Tayloe, Jr., Washington, N. C.; treasurer, Dr. Israel Brown, Norfolk, succeeding Dr. Caton; secretary, Dr. Clarence Porter Jones (re-elected), Newport News.

Married.

Dr. Kenneth Dawson Graves, of Pearisburg, Va., and Miss Margaret Stringfellow Burwell, of Roanoke, Va., November 4.

Dr. Frank E. Daves, Danville, Va., and Miss Adelaide Simpson Bradley, October 12, 1925.

Dr. Robert Whitehead, Victoria, Va., and Miss Elizabeth Ford Eubank, of Keysville, Va., in November.

Dr. Lyle Steele Booker and Miss Katherine Helen Amrhein, both of Durham, N. C., November 10.

Dr. Garnette Wright Johnson, Danville, Va., and Miss Addie Cox, of Ridgeway, Va., November 7.

The Southern Medical Association

Held one of the best meetings of its history in Dallas, November 9-12, Dr. Stewart R. Roberts, of Atlanta, presiding. There was a registered attendance of about 2,200 physicians. All of the sections did good work and this was truly a "feast of reason and a flow of soul." Atlanta, Ga., was selected as the 1926 convention city, the meeting to be held the third week in November. Dr. C. C. Bass, of New Orleans, was elected president, Dr. O. M. Marchman, of Dallas, first vice-president. Dr. M. Y. Dabney, of Birmingham, Ala., was re-elected editor of the Association's journal and Mr. C. P. Loranz continues as secretary-manager of the Association.

Dr. Wm. F. Matthews,

Of the class of '24, Medical College of Virginia, after completing his internship at St. Francis Hospital, Jersey City, N. J., is now at New York Foundling Hospital, New York City.

Dr. R. E. Booker,

Lottsburg, Va., was a recent visitor at Arvonia and in Richmond, Va.

Dr. and Mrs. Lawrence H. Hoover

Have returned to their home in Clarksville, Va., after a short visit to Richmond.

Dr. P. K. Graybill,

Fincastle, Va., left the middle of November for Phoenix, Arizona, where he expects to spend sometime on account of his health. As a member of the Executive Council of the State Society from the Tenth District, he has designated Dr. M. T. McCulloch, of Troutville, Va., to represent that District in his absence.

Dr. G. W. Brown,

Superintendent of Eastern State Hospital, Williamsburg, Va., has recovered from a recent illness.

Dr. P. R. Fox,

Of the class of '23, Medical College of Virginia, has recently moved from Bramwell, W. Va., to McComas, W. Va.

Dr. George C. Snead,

Formerly of Trammel, Va., has now located at Bristol, Tenn., with offices in Interstate Building. He is limiting his practice to pediatrics.

The Annual Conference of Secretaries of Constituent State Medical Associations

Was held at the headquarters of the American Medical Association in Chicago, November 20 and 21. To this conference were invited editors of the State medical journals, as well as the secretaries of the State medical associations, and many subjects were discussed which overlapped to such an extent that they were of interest to both of these officers.

Although there was a discussion of many problems which affect the State associations, perhaps "Periodic Examinations of the Apparently Healthy," by the family physician, attracted more attention than any one subject. Two short sessions were given over to this timely topic, a practical demonstration being made.

Dr. P. D. Lipscomb,

Richmond, has been appointed assistant surgeon-general on the staff of the First Brigade, Virginia Division, United Confederate Veterans.

Dr. F. H. Smith,

Abingdon, Va., who was nominated by the Medical Society of Virginia as a member of the State Board of Medical Examiners from the Ninth Congressional District, has been appointed by the Governor to fill the vacancy for the unexpired term of the late Dr. W. W. Chaffin.

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The Xmas Seal Sale Is On.

Buy them and use them on your Xmas mail! Last year, over $4,200,000 was raised from the Seal Sale in the United States, Virginia's part being $57,463.44. This money was used for free tuberculosis clinics, nurses, and for sanatorium treatment and preventive work.

Do you know that the Xmas Seal Sale idea originated with a postal clerk in Denmark, on Christmas Eve, in 1903? His suggestion took well and resulted in raising money in a short time for a children's tuberculosis hospital in that country. In 1907, the plan was used for the first time in this country in the State of Delaware, and resulted in raising $1,000 to pay on the site of the first tuberculosis sanatorium in that State. Largely as a result of the Xmas Seal sales, the death rate from tuberculosis has been reduced 50 per cent in twenty years. But there is still work to be done. Get busy before it is too late to help this year.

Dr. D. L. Kinsolving,

Abingdon, Va., has been appointed a member of the Washington County, Va., Board of Health, *vice* Dr. T. D. Hutton, who died recently.

The Medical Society of Virginia, Maryland and District of Columbia

Held its regular semi-annual meeting at Raleigh Hotel, Washington, D. C., November 18, under presidency of Dr. J. W. Bird, of Sandy Spring, Md. Dr. Jos. D. Rogers, Washington, is secretary. Following an interesting scientific program, luncheon was tendered the members and time was given for every one to have a good time before returning home.

Dr. A. S. Brinkley

Has been elected vice-president of the University Club of Richmond.

Dr. W. C. Akers,

Of Stuart, Va., has recently opened in that place a private hospital which contains sixteen beds. It will be known as the Stuart Hospital and is located on Main Street west of the Courthouse.

Dr. W. C. Harmon

Has returned to his home at Dolphin, Va., after being a patient in a Richmond hospital.

Montana Saves Mothers and Babies.

Lower infant and maternal mortality rates for Montana are shown in a health review published lately by the Montana Department of Health. In 1923 the infant death rate was 71.8 and in 1924, 65.8. The maternal mortality rate dropped from 7.5 in 1923 to 7.0 in 1924.

Accident Insurance for School Children, Switzerland.

Accident insurance for public school children is to be provided by the Government of Zurich, Switzerland, as has already been done in Bern and Bazelland. At present 150 communities in Zurich are providing this insurance paying an average of 1,000 francs in case of accidental death, 5,000 in case of disability, and 3 francs a day for medical treatment.

American Board of Otolaryngology

An examination was held by the American Board of Otolaryngology on October 19, 1925, at the Cook County Hospital, Chicago, with the following result:

Passed	120
Failed	23
Total Examined	143

The next examination will be held in Dallas, Texas on April 19, 1926. Applications may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Mo.

Commander J. B. Mears, M. C., U. S. N.,

Has been transferred from the Naval Hospital, at Mare Island, California, to the U. S. Naval Hospital, Canacao, P. I. In spite of his many wanderings, Dr. Mears keeps up his affiliation with his native—the Virginia State Medical Society.

District of Columbia Druggists Urge Support of Venereal Disease Control Law.

That druggists should no more attempt to treat the venereal diseases than they should handle smallpox, typhoid, diphtheria, or similar ailments is the view expressed by the Legislative Committee of the District of Columbia Retail Druggists' Association in a circular recently issued by the committee to members of the Association. "Druggists must realize," says the committee, "that efforts of the public health authorities have placed venereal diseases in the same category as smallpox, diphtheria, typhoid, yellow fever and other, more or less, controllable diseases." Attention is directed to the venereal disease control law for the District of Columbia enacted by Congress in February, 1925, and the druggists of the District are urged to co-operate with the local

health department and physicians in making effective the provisions of the law.

Deaths Due to Syphilis in France.

Twenty thousand infant deaths, 40,000 abortions and 80,000 deaths among adults is the toll exacted by syphilis in France each year, according to the Minister of Labor, Hygiene and Social Welfare as reported in a recent number of "*The Lancet*" (London). The government is undertaking a campaign of public enlightenment and is instituting preventive measures for which 4,000,000 francs are appropriated annually. The Minister states that progress is taking place and points to the fact that syphilis is no longer regarded as a disease to be hushed up.

Dr. W. O. Poindexter,

Newport News, Va., narrowly escaped death or serious injury, last month, when his automobile stalled on the railroad tracks near that place. The physician jumped from his car just before it was struck and demolished by a freight train which crashed into it.

Dr. R. S. Spilman,

Medical director of the Virginia Military Institute, Lexington, has been granted a leave of absence for several months, on account of his health. Dr. Spilman was gassed during the World War and, as a result, has been under treatment several times.

Hughes Memorial Hospital.

Early last month, the cornerstone of the Hughes Memorial Hospital was laid by the Virginia Grand Lodge of Masons. This hospital was made possible by the $250,000 bequest of the late John E. Hughes, of Danville. The hospital, when completed, will represent an investment of about $400,000. Work is already well under way.

Association of American Medical Colleges.

At the meeting of this Association held recently in Charleston, S. C., Dr. Hugh Cabot, Ann Arbor, Mich., was elected president, Dr. David L. Edsall, Boston, vice-president, and Dr. Fred C. Zapffe, Chicago, secretary. The next annual meeting will be held in Cleveland, Ohio, in October 1926.

Dr. H. O. Bell,

Who returned to Virginia in the early Fall, after completing a post-graduate course at New York Nursery and Child's Hospital, is now located at Salem, Virginia, where he is engaged in general practice.

Dr. Osler's Challenge to Anti-Vaccinationists.

In response to a letter sent out from the office of the Virginia State Health Commissioner, Dr. A. M. Showalter, of Christiansburg, Va., recently replied that, though he had vaccinated several thousand people in the last eighteen years, he had never yet seen any dangerous or ill effects from vaccination. He further stated that he thought the famous challenge issued by Sir William Osler to the anti-vaccinationists of England a number of years ago (which we append herewith from the July, 1925 issue of *Southern Medicine and Surgery*), would readily apply to the present day.

"I do not see how any one who has gone through epidemics as I have, or who is familiar with the history of the subject, and who has any capacity left for clear judgment, can doubt its value. Some months ago I was twitted by the editor of the *Journal of the Anti-Vaccination League* for a 'curious silence' on this subject. I would like to issue a Mt. Carmel-like challenge to any ten unvaccinated priests of Baal. I will go into the next severe epidemic with ten selected vaccinated persons and ten selected unvaccinated persons—I should prefer to choose for the latter three members of parliament, three anti-vaccination doctors (if they could be found), and four anti-vaccination propagandists. And I make this promise—neither to jeer nor to jibe when they catch the disease, but to look after them as brothers, and for four or five who are certain to die, I will try and arrange the funerals with all the pomp and ceremony of an anti-vaccination demonstration."

It might be added that this challenge was never taken up by those to whom it was addressed.

Dr. John K. Shumate,

Recently of Salem, Va., and later at Catawba Sanatorium, is now at Nopeming Sanatorium, Nopeming, Minnesota.

Dr. J. B. Wingfield

Has returned to his home at Clarksburg, W. Va., after spending six months on his farm in Fairfax County, Va. Dr. Winfield keeps up membership in the Medical Society of Virginia and has many friends in this State, being an alumnus of the former University College of Medicine of the class of '97.

The U. S. Civil Service Commission,

Washington, D. C., announces the following open competitive examinations:

Junior Medical Officer, assistant medical officer, associate medical officer, medical officer and senior medical officer, applications to be rated as received until December 30;

Graduate nurse and graduate nurse (visit-

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ing duty), applications to be rated as received until December 30;

Social worker (psychiatric), receipt of applications to close December 29;

Under scientific helper, receipt of applications to close December 26.

Popular Health Magazine.

The December issue of *Hygeia*, the popular health magazine published by the American Medical Association, seems, if possible, to contain more than usual of interest for the layman with an inquring turn of mind. This magazine always presents medical truths in a wholesome way. Why not order it for your patients for the coming year? For it seems that the more people know of themselves, the more readily they come to the family physician for examination and treatment.

Dr. and Mrs. W. W. Bennett,

Blackstone, Va., were visitors in Richmond, the latter part of November.

Farmville to Have Large Hospital.

The Commonwealth Fund, of New York, a Foundation which proposes to help in erecting and equipping hospitals in different parts of the United States, has offered to contribute $120,000 on a $180,000 hospital in Farmville, Va., if the other third of the amount is raised in the district of which Farmville is the center, with a radius of thirty-five miles. A capacity of forty beds is being planned. The committees have option on an acreage on the outskirts of Farmville. It is expected the contract will be let about February.

Civic organizations in Farmville have taken up the work of putting over this project and are working in conjunction with a committee from the Prince Edward-Cumberland Medical Society.

Dr. J. H. Hiden

Has returned to his home at Pungoteague, Va., after a two weeks' hunting trip in Lunenburg County, Va.

The Fourth District (N. C.) Medical Society,

At its regular meeting in November, elected Dr. Claiborne T. Smith, of Rocky Mount, president; Dr. Spencer P. Bass, of Tarboro, vice-president, and Dr. George M. Brooks, Elm City, secretary-treasurer. It was decided to hold the next meeting in Wilson, N. C.

Dr. and Mrs. Emory Hill

Have returned to their home in Richmond after a short visit to Dr. Hill's mother at Scottsville, Va.

Physicians Should be the Guardians of Public Health.

In view of the fact that several institutions of learning have introduced courses in Public Health whereby a layman as well as a physician may be instructed and in a comparatively short time qualify as a Doctor of Public Health and be allowed to advise, qualify and practice preventive medicine, and as this idea seems to be gaining favor among laymen, the Chicago Medical Society, in recent session, adopted resolutions in which they stated that it was their belief that all positions of trust pertaining to Public Health in any community should be held by physicians and not by laymen who have secured the D. P. H. licenses.

Dr. and Mrs. Arthur B. Carr

And children, of War, W. Va., recently visited relatives in Richmond. Dr. Carr is a member of the class of '21, Medical College of Virginia, and has many friends in this section.

Dr. and Mrs. Francis W. Upshur

Have just returned to their home in Richmond, after a visit to New York City.

The Ninth District Medical Society of North Carolina,

At is recent meeting in Lexington, N. C., elected the following officers: President, Dr. Jarvis R. Terry, Lexington; vice-president, Dr. Andrew B. Byerly, Cooleemee; secretary, Dr. James W. Davis (re-elected), Statesville.

Health Movies, New York.

The New York State Department of Health now has five short health films which are loaned without charge within the State. The films are suitable for general use and it is suggested that health workers have one included in the local theatre programs each week.

Infant Mortality, Canada.

A decrease of 9 per cent in the infant death rate for the vital statistics registration area of Canada during 1924 is reported by the Dominion Bureau of Statistics. The maternal mortality rate in 1924 was 6 per 1,000 live births, the highest rate since 1921.

Dr. H. Frank Givens,

Formerly of Virginia, but now of West Bend, Ind., has been visiting friends and rela-

tives at Glen Wilton, Va., where he formerly lived.

Dr. and Mrs. E. P. Amiss,

Farmville, Va., have been on a visit to Martinsville, Va., where they for a time made their home.

Dr. J. S. Davis,

Professor of Practice of Medicine at the University of Virginia, by invitation, delivered an address before the Richmond Academy of Medicine, November 10, his subject being "Some Aspects of Mouth Troubles."

Dr. Eugene Pendleton

Has returned to his home at Cuckoo, Va., after undergoing an operation at a Richmond hospital.

Elks to Have a Sanatorium.

It is announced that the Virginia B. P. O. Elks will build a tuberculosis hospital for their members and their families. The site selected is near Blue Ridge Sanatorium, Charlottesville, and the sanatorium will have accommodations for forty patients. It is hoped it may be opened during the summer of 1926.

A Tax on Cosmetics for Health Work.

Dr. B. B. Baby, health officer of Richmond, in an editorial on "Christianity and Health Work" in the November issue of *The Chesapeake Christian*, of this city, calls upon the women of Virginia to assist in placing nurses in each county of the State. Public health nurses are needed to care for many of the suffering children and women in some of the rural sections of Virginia, where it is impossible to secure doctors. For this purpose he suggests a small tax on cosmetics (not that he is opposed to their use), but that the women may have this opportunity of providing nurses and paying for rooms in hospitals.

In keeping with this suggestion, Hon. Wm. A. Wright, of the House of Delegates from Essex County, will present a bill in the coming legislature, proposing a tax on cosmetics, the proceeds to be spent for public health nurses, clinics and free hospital beds in the State of Virginia.

Dr. Lewis H. Taylor,

Of Washington, D. C., has returned home after a visit to Huntington, W. Va., and Amelia County, Va.

Dr. William C. Powell,

Petersburg, Va., was a recent visitor in Shelby, N. C., where he went on a business trip.

Dr. U. G. Jones,

Of Johnson City, Tenn., spent some time on business in Marion, Va., last month.

Dr. and Mrs. W. W. Insley,

Of Christiansburg, Va., last month visited their daughter at Ewing, Va.

A Correction.

In our item on the recent meeting of the Clinical Congress of the American College of Surgeons, in our November issue, we inadvertently made the statement that Dr. A. Murat Willis, Richmond, was the only Virginian on the program. Later reference to the program, however, shows that we were in error, as we note that Dr. Israel Brown, of St. Vincent's Hospital, Norfolk, spoke of "Postmortems in the Open Hospital," in the Hospital Standardization Conference. We regret our oversight.

Dr. and Mrs. Reid White,

Lexington, Va., were recent visitors in Asheville, N. C.

Dr. and Mrs. Charles Graham Fox,

Wytheville, Va., were among Thanksgiving visitors in Richmond, this year.

Protection of Working Mothers, Chile.

Recent legislation in Chile provides that every working mother must have a rest period of 40 days before and 20 days after childbirth, her position being held for her during this period; that factories shops, etc., must provide nurseries for the care of the babies of working mothers, and that mothers must have free periods during the day to nurse their babies.

Crippled Children, North Carolina.

The income from a $500,000 bequest to the North Carolina Orthopedic Hospital is to be used for the treatment of "poor and indigent" crippled children, according to the bulletin of the State Board of Charities and Public Welfare.

Hospitals and Venereal Disease Control.

That hospitals may function effectively in the control of the venereal diseases is the substance of an editorial appearing in the October number of "*The Modern Hospital.*" Says the editor: "One specific part of the public health program in which hospitals could and should actively engage is in the control of

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venereal diseases. In no particular is there a greater opportunity to do educational work and certainly in the treatment of the venereal infections much may be accomplished if the work is thoroughly done." The work of the United States Public Health Service through its Division of Venereal Diseases is commented upon as being "largely responsible for the awakening of the people of the United States to the actual and potential dangers that the continuance of these diseases constitutes."

Hospitals can render invaluable assistance to State, city and county health departments by giving the general public information regarding this gigantic health problem. With that end in view, not only hospital superintendents and the medical staff, but nurses, social workers and others coming in contact with the sick should be educated to the point that they will assist in promoting this valuable public health activity. "Here," concludes the editor, "is a piece of work and a responsibility that the hospital field should and must meet at once."

The Physicians' Home, Inc.

A banquet was held at Hotel Waldorf-Astoria, New York City, Monday evening, November 23, to inaugurate the National Campaign for an endowment fund for the National Home for aged and needy physicians. This is endorsed by the leading physicians and laymen of the world, including the women. Dr. Robert T. Morris is president.

On the occasion of the banquet, addresses were delivered by a number of prominent laymen and physicians, among whom were the Hon. Chauncey M. Depew, Hon. Elihu Root, Drs. Hubert Work, Charles H. Mayo, and Alexander Lambert. A special program of music was also given. The fact was brought out at this banquet that approximately 5 per cent of the more than 140,000 physicians in the United States are incapacitated and it is these that the Home seeks to serve. The first small unit of such a home is already in service at Caneadea, N. Y.

The Physicians' Home, Inc., has established headquarters in Times Building, at 42nd Street and Broadway, New York. Contributions should be forwarded to the treasurer, Dr. Albert G. Weed, at that address.

Dr. H. H. Ware, Jr.,

Of the class of '24, Medical College of Virginia, who served as interne at Stuart Circle Hospital, Richmond, following his graduation, is now at the New York Nursery and Child's Hospital, as an interne on the obstetrical service.

University of Michigan Opens New Hospital.

The new University Hospital, operated in connection with the University of Michigan, was formally dedicated on November 19 and opened for inspection on November 19, 20 and 21. Many distinguished speakers gave addresses and a number of clinics were held in the different amphitheaters and lecture rooms in the Hospital.

On the 20th, the Hospital served luncheon to the guests and visiting physicians.

Dr. James M. Miller,

For some time located at Crockett, Va., is now living in Wytheville, Va.

Dr. J. M. Harman

Has returned to his home at Floyd, Va., after spending some time in Richmond, where he was undergoing treatment at a local hospital.

Dr. Baxter C. Culler,

Located for a time at Fieldale, Va., has now moved to Martinsville, Va.

Dr. E. W. Peery

And family, of Lynchburg, Va., have gone to Delray, Florida, for the winter, with the idea, perhaps, of making it their home.

Pure Milk, Illinois.

Certificates of approval from the Illinois Department of Public Health must be secured by all milk pasteurization plants, except in large cities with good municipal inspection, according to a recent law. Employees in such plants must have annual physical examinations.

Babies Saved, Bridgeport, Conn.

Four year's work by Bridgeport's division of infant hygiene has reduced the city's infant mortality rate from ninety-two per 1,000 live births to fifty-six, a drop of almost forty per cent.

Health stations have aided in this work. The cost of keeping in touch with a baby at home and in the health station is only twenty-nine cents a visit.

Equal Guardianship Bill, Great Britain.

The principle of equal rights and responsibilities for mothers and fathers in the guardianship of their children is recognized by the

British Parliament in a bill passed recently. Agitation for such legislation has continued for years. The new law provides that in any case coming before the courts the child's welfare shall be the first consideration. Mothers are given equal rights with fathers in appointing guardians after the death of either parent.

That Blue Slip.

Members of the Medical Society of Virginia will find in this issue a blue slip which is self-explanatory. Won't you look for it? Its use by members generally will save this office much time which may be given other work. It should not, of course, have attention of those who have paid their 1926 assessments.

In closing the year, we take this occasion to thank all our members for their loyal support and co-operation during the past year and count on a continuance of your good will.

Again, we would call attention to our advertisers. There are none better for the products they bring to your attention. In patronizing them, you are helping yourself. "Nuf sed."

Dr. T. Duckett Jones,

Of the class of '23, University of Virginia Medical School, is cardiac research resident and is working with Dr. Paul D. White at the Massachusetts General Hospital, Boston.

Dr. and Mrs. S. R. Jordan,

Townsville, N. C., spent Thanksgiving holidays with friends at Virgilina, Va., where they formerly made their home.

Dr. H. W. Porter

And family, of Louisa, Va., were recent visitors in Richmond.

Dr. Howard Fox,

Prominent dermatologist of New York City and president of the American Dermatological Association, has been appointed professor of dermatology and syphilology in the New York University and Bellevue Hospital Medical College. He succeeds the late Dr. William Trimble, who had been a member of the medical college faculty since 1898.

Dr. and Mrs. C. S. Dodd

And family, of Petersburg, recently visited relatives near Chase City, Va.

Dr. and Mrs. J. T. T. Hundley,

Radford, Va., have returned home after a visit to Dr. Hundley's parents in Lynchburg.

The Norfolk and Western Surgeons' Association

Held its annual meeting in Norfolk, November 4 and 5, Dr. J. M. Burke, of Petersburg, presiding. Everything was done for the pleasure of the surgeons and the meeting was a pronounced success. Many social features were prvided, the last but not least of which was an oyster roast at Cape Henry. Dr. Beverley R. Tucker, Richmond, was elected president; Dr. H. A. Burke, Petersburg, vice-president; and Dr. T. D. Armistead, Roanoke, was re-elected secretary-treasurer. Dr. S. S. Gale, Roanoke, is chief surgeon of this road.

The Chesapeake and Ohio Railway Surgeons' Association,

At its meeting at White Sulphur Springs, W. Va., early in November, elected Dr. Robert J. Wilkinson, Huntington, W. Va., president for the coming year, and decided to hold its 1926 meeting at White Sulphur Springs. Dr. W. T. Oppenhimer, Richmond, is chief surgeon of this road.

Maternity and Infancy Work.

Are American children undernourished? Physicians and nurses holding child-health conferences in forty-three States under the Federal Maternity and Infancy Act report that malnutrition, or undernourishment, is prevalent among the children they examine. Other frequent defects are eye, nose, and throat abnormalities, cavities in the teeth, orthopedic defects, glandular enlargements or insufficiencies. Nearly 600,000 infants and preschool children were examined by States co-operating under the Maternity and Infancy Act during the two years, 1924 and 1925.

Crippled Children, Michigan.

Michigan, attempting to give handicapped children the earliest possible care, now asks on birth certificates whether there is any serious deformity or defect in the child at birth. This is a recent step taken by the State Department of Health.

Midwife Work, Virginia.

With one-third of all reported births in Virginia attended by midwives, midwife instruction is recognized as a vital part of the State work for mothers and babies. A supervisor of midwife education has organized classes for midwives and given the course of instruction in forty-nine counties.

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Playgrounds, Rio de Janeiro.

The mayor of Rio de Janeiro was authorized last June to establish ten public playgrounds for children in open squares in different parts of the city, with the provision that he might open as many more as he should consider wise. The playgrounds are to be adequately equipped for gymnastics and for tennis and other sports, and the cost will be met by taxation.

Wanted—

To succeed a physician who is retiring and has home for sale. Address No. 438, care the *Virginia Medical Monthly*. (Adv.)

Warning!

Doctors having policies with the Buckeye Mutual Health Association, of Columbus, Ohio, will do well to know the experience of the undersigned with this Company. Walter Cox, M. D., Winchester, Virginia.

For Sale or For Rent.

Because of the untimely death of Dr. George T. Divers, the St. Martin's Hospital, of Stuart, Virginia, offers an excellent opportunity for some doctor and surgeon.

The building has all modern equipment, steam heat, electric lights and water, beautiful grounds, adequate room for forty patients, rooms with or without bath, located near corporate limits of the Town of Stuart in one of the most beautiful and healthy sections of the Blue Ridge. This fire proof building was erected in 1923.

For particulars, write to R. Paul Sanford, Attorney, Stuart, Virginia. (Adv.)

Obituary

Dr. Edwin M. Newsom.

Prominent child specialist of Newport News, Va., died in that city, November 9, after an illness of five weeks with kidney trouble. Dr. Newsom was forty-one years of age and a native of Bedford City, Va. He studied medicine at the University College of Medicine, Richmond, from which he graduated in 1909. Shortly thereafter, he located in Newport News, where he had since made his home. He was a Mason, a member of his local and State medical societies, as well as of the American Medical Association and various other organizations. In addition to his private work, Dr. Newsom was a member of the staff of the Elizabeth Buxton Hospital. His wife and a daughter survive him.

Resoutions Upon Death of Dr. Newsom.

Upon the death of Dr. Edwin M. Newsom, of Newport News, Virginia, the Warwick County Medical Society, in session assembled, adopted the following resolutions:

RESOLVED, That we deeply regret the death of a member with whom we have been long associated; that in the severance of these relations he will be greatly missed by us.

That we record with pride his professional achievements and the evidences of character which in his life have been so convincing and so conclusive.

To his family, his friends and to that wide circle of people who looked to him for professional advice and guidance, we extend our sympathy and sorrow.

W. F. COOPER,
L. E. STUBBS,
F. W. POINDEXTER,
Committee.

Dr. Thomas Dunn Hutton,

One of the most prominent physicians of Southwestern Virginia, died at his home at Glade Spring, Va., November 19, after a short illness. Dr. Hutton was a native of Washington County, Va., and studied medicine at Bellevue Hospital Medical College, New York, and the Medical College of Virginia, Richmond, taking his degree from the last named school in 1893. He had been a member of the Medical Society of Virginia since 1897, and was also a member of Southwestern Virginia Medical Society, and a member of Washington County Board of Health. His wife and several children, besides a large family connection, survive him.

Dr. William Macon Smiley,

Of Salem, Va., died at his home in that place November 6, at the age of fifty-seven years. Dr. Smiley formerly made his home in Halifax County, Va., but had resided in Salem for the past few years. He was a graduate of the Medical College of Virginia, Richmond, in the class of 1901, and one of his sons is now a member of the senior class in that school. Dr. Smiley was formerly a member of the Medical Society of Virginia.

Dr. Thomas W. Repass,

Of Wytheville, Va., died at his home in that place November 15, at the age of fifty-eight years. He was born in Bland County, Va., and, upon completion of his academic education, studied medicine at the Medical College of Virginia, Richmond, taking his degree in 1895. He had practiced in Fluvanna County, Va., and in Pocahontas and Roanoke. He is survived by his widow and three sons.